

PORT-OF-SPAIN CITY COUNCIL.



ANNUAL REPORT

FOR THE YEAR 1926

ON THE

VITAL STATISTICS, SANITARY CONDITION AND
SANITARY ADMINISTRATION

OF THE

URBAN SANITARY DISTRICT OF THE CITY OF
PORT-OF-SPAIN.

BY

GEORGE H. MASSON, M.D., D.SC., F.R.C.P.E., F.R.S.E.,
Medical Officer of Health.



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1927.



Presented by

G. H. Maassen, M.O., D.Sc., FRCPE, FRSE

5th September 1927



With the Compliments of
The Medical Officer of Health,
Town Hall, Port-of-Spain,
TRINIDAD.

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URBAN SANITARY DISTRICT OF THE CITY OF PORT-OF-SPAIN.

Report of the Medical Officer of Health for the year 1926.

SECRETARY LOCAL AUTHORITY,

SIR,

I have the honour to submit for the information of the Local Authority the following Annual Report on the vital statistics, sanitary condition and sanitary administration of the Urban Sanitary District of the City of Port-of-Spain for the year 1926.

I.

VITAL STATISTICS.

Short Summary.

Area of City	....	....	....	....	....	....	1,514 acres
Mean Population (estimated to 30th June	....	....	....	....	....	....	65,016
Density	....	....	....	....	....	....	42·9 persons per acre
Total live-births	....	....	....	....	....	....	1,833
Birth-rate per 1,000 of Population	....	....	....	....	....	....	28·19
Average Birth-rate for previous five years	....	....	....	....	....	....	29·39
Total Deaths	....	....	....	....	....	....	1,568
Death-rate per 1,000 of population	....	....	....	....	....	....	24·12
Average Death-rate for previous five years	....	....	....	....	....	....	24·74
Total Deaths under 1 year	....	....	....	....	....	....	287
Infant Mortality	....	....	....	....	....	....	156·57
Average Infant Mortality for previous five years	....	....	....	....	....	....	154·31
Total Still-births (Dead-born infants)	....	....	....	....	....	....	144
Still-birth rate (Dead-born infants per cent. of registered live-births)	....	....	....	....	....	....	7·85
Average Still-birth rate for previous five years	....	....	....	....	....	....	8·90
Notifiable Infectious Diseases—Total death rate per 1,000 of population	....	....	....	....	....	....	4·40
Do. do. Average death-rate for previous five years	....	....	....	....	....	....	5·10
Cardiac and Vascular diseases—Death-rate per 1,000 of population	....	....	....	....	....	....	3·06
Pulmonary Tuberculosis	do.	do.	....	....	....	....	2·81
Bright's disease and Nephritis	do.	do.	....	....	....	....	1·70
Diarrhoea and Enteritis	do.	do.	....	....	....	....	1·64
Bronchitis	do.	do.	....	....	....	....	1·21
Malaria	do.	do.	....	....	....	....	1·03
Syphilis	do.	do.	....	....	....	....	0·99
Pneumonia and Broncho-pneumonia	do.	do.	....	....	....	....	0·95
Cancer and other Malignant diseases	do.	do.	....	....	....	....	0·73
Dysentery	do.	do.	....	....	....	....	0·47
Enteric Fever	do.	do.	....	....	....	....	0·40
Tuberculosis (non-pulmonary)	do.	do.	....	....	....	....	0·26
Ankylostomiasis	do.	do.	....	....	....	....	0·23
Diphtheria	do.	do.	....	....	....	....	0·02

A comparative summary of vital statistics for the years 1925 and 1926 is given in Table I.

POPULATION.

The mean population estimated to the 30th June was 65,016—an increase of 481 on the previous year. Assuming the correctness of this estimate, the increase in population may be attributed to an excess of immigration over emigration, since the natural increase of population, *i.e.*, the excess of births over deaths, was 265.

In the previous year the natural increase was 328, and the mean for the preceding five years, 1921—1925, was 296.

The distribution of the population, based on a house to house count made by the sanitary staff in 1925, is approximately as follows :—

City	....	....	....	....	....	26,473
St. Clair	....	....	....	....	....	1,221
East Dry River	....	....	....	....	....	15,731
Belmont	....	....	....	....	....	12,434
Woodbrook	....	....	....	....	....	9,157

BIRTHS.

There were 1,833 live-births registered during the year. These comprised 926 boys and 907 girls, being equivalent to a total birth-rate of 28·2 per 1,000 of population, which was the same as in the previous year when, with a somewhat smaller population, the births totalled 1,820. The average birth-rate for the preceding five years was 29·39. The births and birth-rates month by month are shown in Table II.

DEATHS.

The deaths registered from all causes included 828 males and 740 females, or a total of 1,568 for both sexes—an excess of 76 over the previous year. The death-rate was 24·12 per 1,000, compared with 23·12 last year, and an average of 24·74 for the preceding five years. The deaths of males and females, and the total death-rate for both sexes, month by month are shown in Table III.

Deaths at the different age periods are given in Table IV.

The death-rates are corrected to the extent of eliminating from the records all deaths of non-residents occurring at the Colonial Hospital, this action being possible through daily returns furnished by that institution. As the existing form of death certificate does not provide for information regarding the usual place of abode of a deceased person prior to his last illness, the data for distinguishing between deaths of residents and non-residents dying in the City elsewhere than in Hospital are not available, except in cases of notifiable infectious disease when special inquiries are made: for these reasons the crude death-rates are only partially corrected, but in the manner presented here they are, at any rate, less crude than the figures of the Registrar-General in which are included the deaths of no fewer than 368 non-residents who died at the Co'lonial Hospital. (Table V.)

Deaths from all causes are classified in Table VI.

STILL-BIRTHS.

144 still-births, or infants born dead after 28 weeks of intra-uterine life, were registered during the year, being 9 fewer than in the previous year. The number of dead-born infants per cent. of live-births was 7·8, compared with 8·4 in the preceding year, and an average of 8·9 for the previous five years. Table VII shows the monthly number of still-births and the corresponding rates per cent. of live-births.

INFANT MORTALITY.

The number of children who died under one year of age was 287—equivalent to 18·3 per cent of the total amount of 1,568 deaths at all ages. The infant death-rate resulting from these figures is 156·57 per 1,000 live-births, compared with 154·95 in the previous year, and a yearly average of 154·31 for the preceding quinquennial period—1921-1925.

The average annual mortality for each of the quinquennia 1917-1921 and 1922-1926 was, respectively, 198·4 and 151·61.

The annual infant mortality rates for the five years 1922-1926 are given below, viz. :—

1922	....	....	....	....	....	157·89
1923	....	....	....	....	....	141·57
1924	....	....	....	....	....	147·08
1925	....	....	....	....	....	154·95
1926	....	....	....	....	....	156·57

The causes of death under this head for 1926 are detailed in Table VIII and may be grouped as follows :—

Congenital syphilis, congenital debility, prematurity, marasmus, atrophy and other conditions commonly ascribed to ante-natal causes	....	49.0	per cent.
Gastro-intestinal diseases	....	31.5	do.
Respiratory Diseases	....	11.0	do.
Nine other causes of death, including malaria, whooping cough, diphtheria, and asphyxia	....	8.5	do.
		<hr/> 100.00 <hr/>	

Notwithstanding the excellent work done by the Child Welfare League whose progressive activities are only restricted by insufficient financial resources, the infant mortality, which meant a dead loss to the City this year of 156 children per 1,000 births, is still far too high.

It is no consolation to reflect that this pitiful wastage of budding, human life is greater in many other tropical places, for that is merely another way of agreeing that in the realm of public health there are more backward places than Port-of-Spain—a proposition which surely needs no argument.

In point of fact, is it not rather because of the forward position held in this field by Port-of-Spain among tropical cities, in and beyond the West Indies, that a distinct indication is apparent for some practical effort on the part of the Municipality to assist in expanding the beneficent work of the Child Welfare League?

To quote from a recent leader in the *London Times* "There is no national investment so productive of benefit to all classes—and indeed to all ages—as a highly organised infant welfare scheme. For such a scheme extends to almost every department of life, and effects, sooner or later, improvement in every department."

Accounts published in the press from time to time of the terrible mortality among new-born children in certain parts of the West Indies, Africa and Asia, are apt to soothe public sentiment into accepting a high infant death-rate as being more or less a natural and inevitable phenomenon in tropical climates, but, clearly, the problem in this City, at any rate, is not a question of latitude: it is financial.

There is nothing wrong with the climate of Port-of-Spain in the matter of rearing infants successfully. Compared with England and Wales, where the infant mortality rate has been gradually reduced to something below 60 per 1,000 births, the climatic conditions of Port-of-Spain offer immeasurably superior advantages.

The real causes of the excessively high mortality among the infants of Port-of-Spain are to be found in parental disease—especially preventable disease, parental ignorance, maternal malnutrition resulting from poverty and disease, and lack of expert medical attention and proper care during pregnancy and child-birth. It may therefore be predicted with confidence that an adequate and properly directed expenditure of Municipal funds to assist in combating these social evils will inevitably result in a progressive decline from year to year in the high death-rate among infants born in the City.

Deaths from 1 to 5 years numbered 120, or 7.65 per cent. of the total mortality for the year. The causes of deaths in this age group are set out in Table IX and are classified as follows :—

Stomach and bowel troubles, including gastro-enteritis, colitis, dysentery and diarrhoea	....	36.0	per cent.
Antenatal causes, including congenital syphilis, marasmus and malnutrition	....	17.5	do.
Respiratory diseases, including pneumonia and bronchitis	....	14.0	do.
Malaria	....	11.0	do.
Enteric Fever	....	5.0	do.
Tuberculosis (pulmonary and miliary)	....	4.0	do.
Ten other diseases, including dentition, convulsions, worms, measles, meningitis and injuries	....	12.5	do.
		<hr/> 100.00 <hr/>	

NOTIFIABLE INFECTIOUS DISEASES.

The infectious diseases notifiable under the Public Health Ordinance, 1915, include plague, cholera, yellow fever, small-pox, typhoid or enteric fever, tuberculosis (all forms), diphtheria, membranous croup, pneumonia, chicken-pox and ophthalmia neonatorum. The first four are quarantinable.

Neither plague, cholera nor yellow fever has occurred in the Colony, or been imported from abroad, for a great number of years.

The total number of cases of infectious disease notified during this year was 465, compared with 502 in the preceding year.

The numbers of the cases notified from month to month are shown in Table X.

The deaths from these diseases numbered 289 (Table XI)—equivalent to 18·4 per cent. of the total deaths from all causes, compared with 16·7 per cent. in the previous year.

The notifications, deaths and death-rates from notifiable infectious diseases, compared with the corresponding records for the preceding year, are tabulated below, and their distribution in the different portions of the City is shown in Table XII.

Comparison of Deaths and Death-rates for 1925 and 1926.

Diseases.	1925.			1926.		
	Notifications	Deaths.	Death-rate per 1,000 Population.	Notifications.	Deaths.	Death-rate per 1,000 Population.
Pulmonary Tuberculosis ..	173	148	2·29	172	183	2·81
Enteric Fever	168	20	0·31	125	26	0·40
Pneumonia and Broncho-pneumonia	85	63	0·98	86	62	0·95
Ophthalmia Neonatorum ..	5	..	..	28	..	..
Tuberculosis (Other forms) ..	15	17	0·26	18	17	0·26
Small-pox (Alastrim type) ..	..	..	..	16	..	..
Chicken-pox	31	..	..	16	..	..
Diphtheria	25	2	0·03	4	1	0·02
Membranous Croup .. ..	..	..	..	..	..	..
Plague .. ..	..	..	..	..	..	..
Cholera .. ..	..	..	..	..	..	..
Yellow Fever .. ..	..	..	..	..	..	..
Total	502	250	..	465	289	..

Pulmonary Tuberculosis.—172 cases were notified and 183 deaths registered, the latter being equivalent to a death-rate of 2·81 per 1,000 of population. These figures were an increase on those for the preceding year when the notifications and deaths were, respectively, 173 and 148, and the death-rate 2·29 per 1,000. The average annual death-rates from this disease for the two quinquennial periods 1917-1921 and 1922-1926 were 2·93 and 2·61, respectively. Of the non-pulmonary forms of tuberculosis there were 18 notifications and 17 deaths,

CHART A.

ENTERIC NOTIFICATIONS 1917-1926.

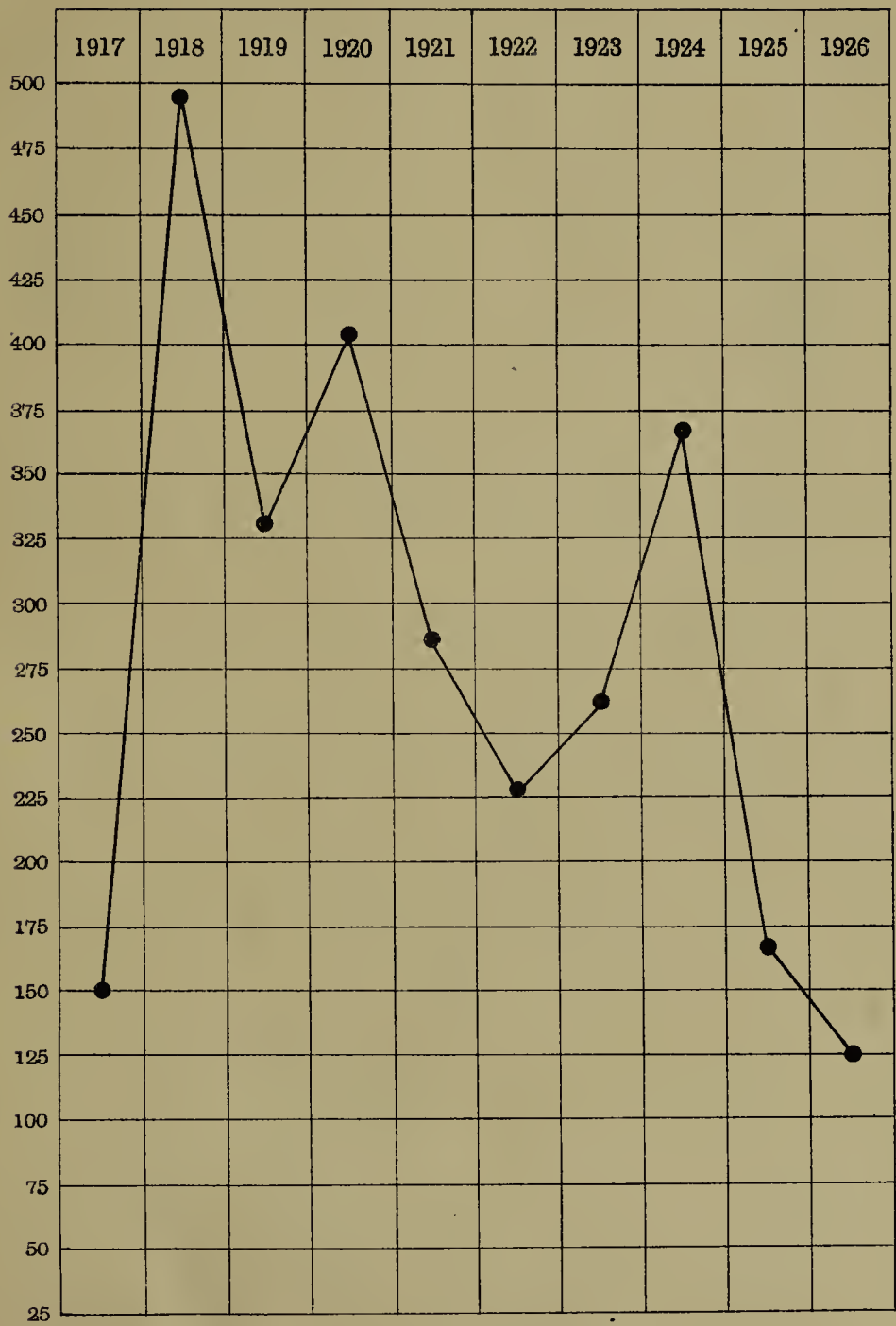
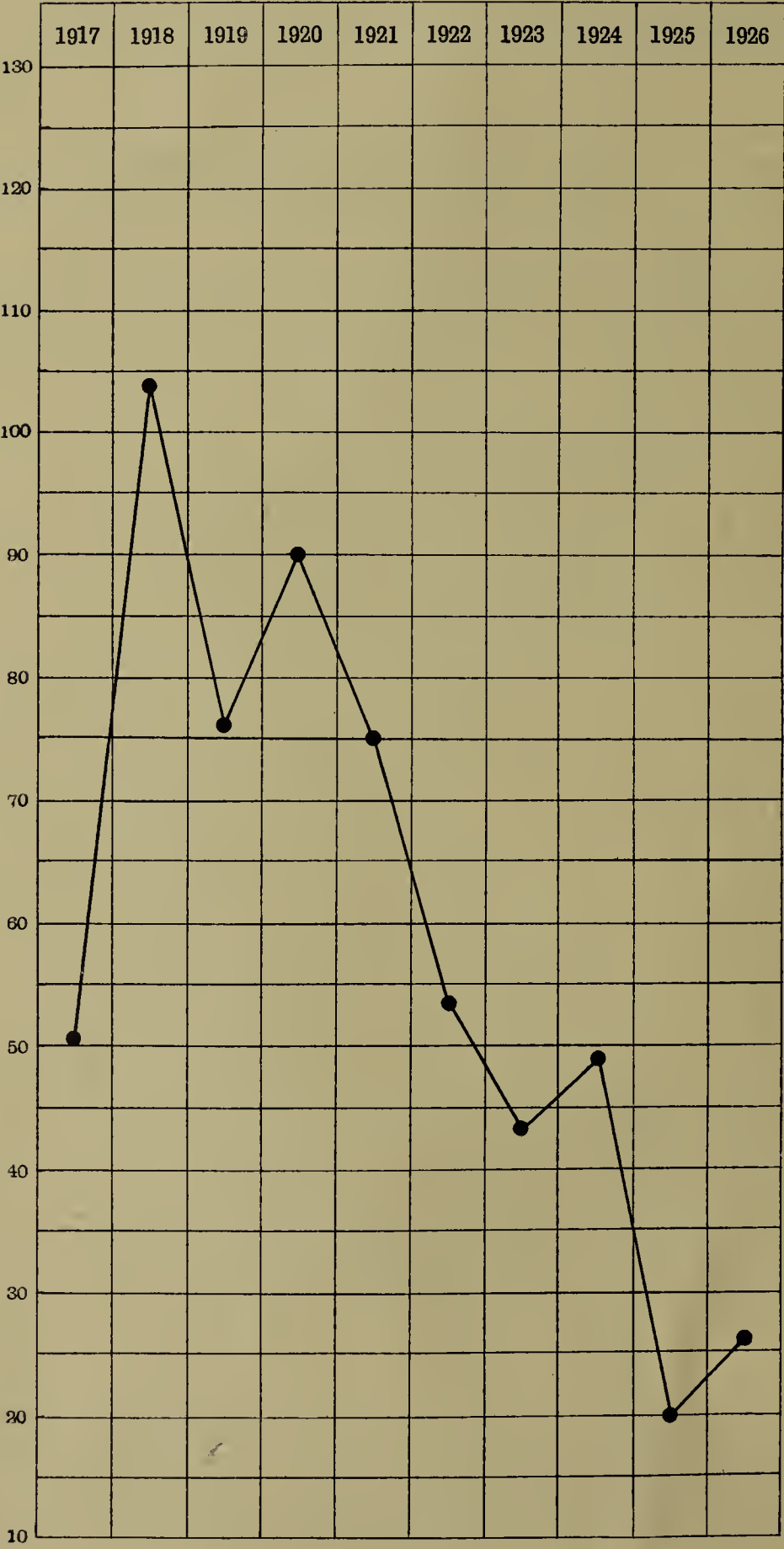


CHART B.

ENTERIC DEATHS 1917-1926.



In a large proportion of cases pulmonary tuberculosis is only notified in its terminal stages, but the close approximation of deaths to notifications or, as in the case of the year under review, the excess of deaths over notifications, is explained by the fact that a fair proportion of those who die in a given year is already notified in a previous year. Table XIII shows that of the total of 183 deaths, 103, or 56·2 per cent., died in hospital after varying periods, some short, some lengthy, of isolation. The good effect of removing to hospital advanced or helpless cases occurring in poor families, or in places where children are housed, cannot be over-estimated.

71 such cases were sent to the Tuberculosis Wards at the Colonial Hospital from the Dispensary of the Trinidad Association for the Prevention and Treatment of Tuberculosis—23 of them being transferred on the first day of their attendance at the Dispensary.

The Association continues to co-operate effectively with the Public Health Department in the work of preventing the spread of tuberculosis in the City. Information of every case notified is passed on to the Tuberculosis Nurses who visit the premises occupied by the patient and advise such precautionary measures as may be necessary, including the attendance of the house contacts, especially children, at the Dispensary for medical examination by the Tuberculosis Officer. The sanitary inspectors regularly inform the nurses of any suspicious cases of tuberculosis seen by them in the course of their daily rounds, so that these might be investigated, and the nurses reciprocate by drawing the attention of the inspectors to any lack of ventilation or other insanitary condition noticed in the homes of patients during their domiciliary visits. Complaints, usually secret or anonymous, made to the Health Department by the occupants of barrack rooms of some other tenant having "a bad cough and I am afraid of catching it" are, as a routine measure, referred to the Tuberculosis Nurses for investigation and report.

In this way the foundation for the future employment by the Local Authority of women Health Visitors is being gradually and unobtrusively laid.

Enteric Fever.—This disease continues to show a steady downward course. 125 cases were notified, compared with 168 in the preceding year. The deaths, however, increased from 20 to 26, the latter number being equivalent to a death-rate of 0·40 per 1,000, compared with 0·31 in the previous year.

The prevalence of enteric fever in the City during the decade 1917-1926, as denoted by the notifications and deaths, is tabulated below, and the curve of the figures displayed in Charts A and B.

Year.									ENTERIC FEVER.	
									Notifications.	Deaths.
* 1917	..	..	..	..	..	..	..	..	150	51
1918	..	..	..	..	..	..	..	..	495	104
1919	..	..	..	..	..	..	..	..	330	76
1920	..	..	..	..	..	..	..	..	401	90
1921	..	..	..	..	..	..	..	..	287	75
1922	..	..	..	..	..	..	..	..	226	53
1923	..	..	..	..	..	..	..	..	265	43
1924	..	..	..	..	..	..	..	..	370	49
1925	..	..	..	..	..	..	..	..	168	20
1926	..	..	..	..	..	..	..	..	125	26

* Notification began in May, 1917.

Of the 125 cases notified, 50 occurred in the sewered, and 75 in the unsewered portions of the City, as follows :—

Central portion of the City (sewered)	....	....	....	....	....	49
St. Clair (sewered)	....	....	....	....	....	1
Woodbrook (unsewered)	....	....	....	....	....	12
East Dry River (unsewered)	....	....	....	....	....	26
Belmont (unsewered)	....	....	....	....	....	37

Among the direct measures in force for the prevention of enteric fever are the removal to hospital of all cases so lodged that proper precautions cannot be taken to prevent the spread of the disease, disinfection and regular, weekly oiling of cesspits in the unsewered districts with crude petroleum.

Although the beneficial effects of anti-typhoid inoculation are usually more apparent in villages and small settlements, this measure was also practised, but only to a slight extent. Since the close of the year, however, it has become the routine practice to inoculate as many as possible of the contacts to every case notified. As regards the removal of enteric cases to the Colonial Hospital for isolation and treatment, Table XIV shows that of 125 notified, 96 or 76·8 per cent. were treated in hospital, and of the 26 deaths from the disease, 21, or 80·7 per cent., took place during isolation in hospital.

Another measure of prevention against the spread of enteric fever is the chlorination of the water supplies from the Maraval and St. Ann's rivers, and the wells at Cocorite, Diego Martin and St. Clair, with liquid chlorine by means of Paterson Chloronome apparatuses, of which there are six installed in the City waterworks.

The steady decline in notifications of this disease since the purification of the Maraval river water supply was begun with chlorinated lime in February, 1924, and continued, as from September, 1925, with liquid chlorine, is graphically shown in Chart C.

Small-pox.—After an interval of over 20 years a slight outbreak of small-pox of the mild type known as “alastrim” occurred in the City. The outbreak began in January with an imported case from the Spanish Main where the disease was prevalent, rose to a peak in March when 9 cases were notified, and ceased in May after the last case was removed to hospital. The total number of cases which occurred during the outbreak was 20, of which 16 were notified in the City and 4 in out-districts to which the infection had spread. There were no deaths. The preventive measures adopted were prompt isolation in hospital, disinfection, vaccination and re-vaccination not only of immediate contacts, but house to house over a wide area round about the infected premises. A house to house search for possibly unreported cases was instituted throughout the whole of the East Dry River district, Belmont, and the thickly populated areas west of the Dry River, below Park Street, where seamen and deckers from the Venezuelan coast were most likely to take their lodging. For the better carrying out of the last mentioned measure the strength of the sanitary staff was augmented by 20 temporary assistants furnished by the Central Board of Health. Great vigilance was also exercised by the Port Authorities in preventing re-infection from Venezuela. In dealing with this outbreak the co-operation of the Government, through the Surgeon-General, the Medical Inspector of Health and the staff of the Colonial Hospital was an invaluable asset to the Local Authority.

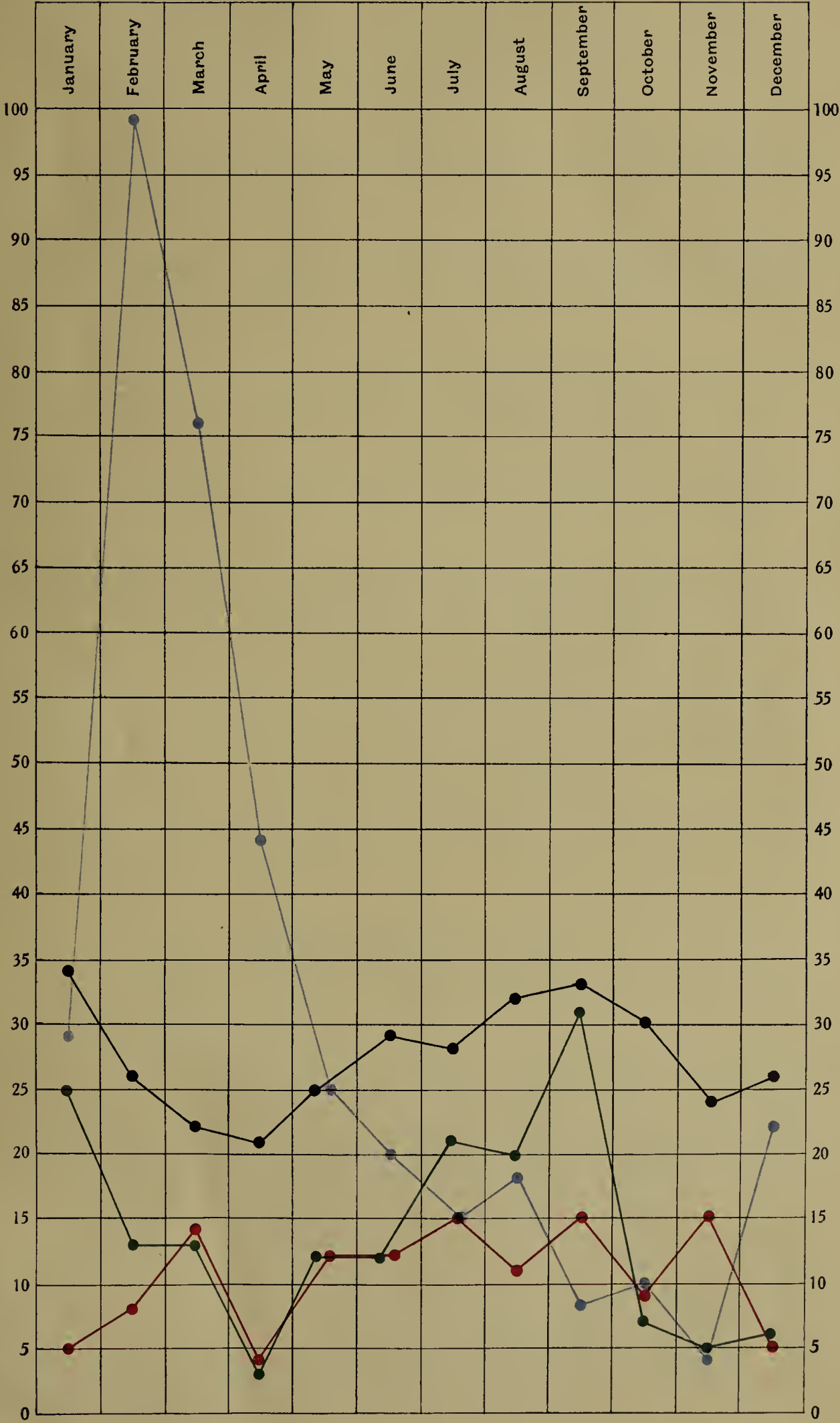
The following table gives particulars of the cases notified month by month, their removal to hospital and subsequent discharge :—

Cases of Small-pox.

Month.							Rash appeared.	Removed to Hospital.	Discharged.
January	..	..	..	..	..	..	1	1	..
February	..	..	..	..	..	..	3	2	..
March ..	..	..	..	..	..	..	9	9	4
April ..	..	..	..	..	..	..	2	3	9
May ..	..	..	..	..	..	..	1	1	2
June ..	..	..	..	..	..	..	..	..	1
Total							16	16	16

CHART C.

ENTERIC FEVER.
CASES NOTIFIED IN PORT-OF-SPAIN.



Black — Seasonal Prevalence each month—1918-1923.
Blue — Enteric Fever in 1924.
Green — Enteric Fever in 1925.
Red — Enteric Fever in 1926.

Chicken Pox.—16 cases of chicken-pox were notified without any fatality. (Table X.) This number was less by 15 than in the previous year, but the fact that there was also a prevalence of alastrim during the first 4 or 5 months of the year rendered it difficult sometimes to make a definite diagnosis on the spot. In all such cases the practice was to vaccinate the contacts there and then, remove the patient to hospital for isolation and observation, and disinfect the premises. In this way the public was safeguarded against the possible consequences of mistaking an atypical case of alastrim for the milder infection.

Pneumonia.—The number of cases of pneumonia and broncho-pneumonia notified was 86 (Table X) with 62 deaths (Table XI) and a death-rate of 0·95 per 1,000, compared with 85 cases, 63 deaths and a death-rate of 0·98 per 1,000 population in the preceding year.

In 1922, when there was an undue prevalence of influenza in the City, 240 cases of pneumonia were notified with 140 deaths. The average annual notifications and deaths from this disease for the preceding period of 5 years 1921-1925 were, respectively, 133·6 and 90.

Table XI shows the monthly number of deaths from pneumonia, and Table XIV the proportion of deaths from this disease which took place in hospital, viz. :—33 out of 62, or 53·2 per cent. of the whole.

Diphtheria.—This disease was less prevalent than last year. 4 cases were notified (Table X) with 1 death (Table XI) compared with 25 cases and 2 deaths in 1925.

Ophthalmia Neonatorum was added to the list of notifiable infectious diseases in May last year and 5 cases were notified. This year the notifications of the disease increased to 28 (Table X) thus showing the necessity for having declared it to be an infectious disease under the provisions of the Public Health Ordinance.

Prompt attention to the eyes of new-born infants already forms a special part of the training of licensed midwives, and the recent appointment of a lady doctor to the Child Welfare and Maternity Clinic is another progressive step providing for the care necessary to prevent expectant mothers from being able to infect and, perhaps, hopelessly damage the eyes of their offspring at birth.

A comparison of deaths in hospital and deaths at home from notifiable infectious diseases is shown in Table XIV.

NON-NOTIFIABLE INFECTIOUS DISEASES.

Among the non-notifiable infectious diseases, Malaria, Syphilis and Dysentery were the most important.

Malaria.—Table XV shows that 67 deaths were ascribed to malaria, compared with 53 in the previous year. Although a special mosquito survey was made in the neighbourhood every premises in the City from which a death from malaria occurred, in no case was the presence of adult anopheles mosquitoes or their breeding ground discovered. Some of the cases were infants whose deaths were certified to malaria without any confirmatory blood tests. Others were adults in whom the origin of the infection could not be traced. At present there are no known breeding places of anopheles mosquitoes within the inhabited portions of the City, and it is doubtful whether anophelines coming in from Laventille and other outskirts are sufficiently prevalent to be the cause of such an important proportion of the City mortality. Table XV shows the number of registered deaths from the disease month by month, but from Table XVI it is interesting to note that of the total of 67 deaths, only 14 were classified to that cause at the Colonial Hospital where facilities for making confirmatory blood tests, or post-mortem examinations, are available on the spot.

Syphilis.—Deaths certified to syphilis showed a decrease of 15 on last year, the total number being 65 (Table XV), with a death-rate of 0·99 per 1,000 population, compared with 80 deaths and a death-rate of 1·24 in the preceding year. As mentioned in a previous report the deaths registered as being due to syphilis by no means exhaust the mortality for which this disease is responsible. It is the *causa causans* of an important proportion of deaths certified to diseases of the heart and blood vessels, and diseases of the brain and spinal cord in adults, also to congenital debility, prematurity, marasmus and atrophy in infants. It is an important cause of infant mortality and of death among the middle aged. It is also a maiming disease, and is frequently responsible for congenital defects and malformations in children, premature old age, and grave affections of the special senses in adults. The work of the Venereal Clinic established in the City is of supreme importance in the prevention of syphilis, but in spite of the decrease in the number of deaths registered from that cause, the disease is still far too prevalent among all classes in the community, and much propaganda work by medical men and the clergy, with special stress on the importance of continence as an infallible preventive, is needed to check the growth of this dangerous and far reaching disorder.

Dysentery.—31 deaths were registered under this head which, no doubt, included a variety of diarrhoeal diseases. The number of deaths was the same as in the previous year and the death-rate 0·48 per 1,000 population in both years. Of the 31 deaths, 14 (Table XVI) or 45·1 per cent. occurred in hospital. Table XV shows the deaths from month to month.

Ankylostomiasis.—The conditions for the spread of this disease in Port-of-Spain are not favourable. Most of the severe cases occur among East Indians and originate in country districts. Of 15 deaths during the year (Table XV) 9 took place at the Colonial Hospital (Table XVI).

Influenza.—There was no unusual prevalence of influenza during the year, nor was any death assigned to that cause.

OTHER PRINCIPAL CAUSES OF DEATH.

Diseases of the Heart and Blood Vessels.—Among the more important diseases included under this head are valvular and other diseases of the heart, arterio-sclerosis, aneurism and angina pectoris. This group took the first place on the mortality list, the number of fatalities being 199, which was equivalent to a death-rate of 3·06 per 1,000 population. In the previous year the deaths and death-rate were, respectively, 190 and 2·94. The following table shows the gradual rise in the deaths and death-rates allocated to this group in respect of which the influence of syphilis is of special significance in the middle-aged.

Diseases of the Heart and Blood Vessels.

[illegible]

Bright's Disease and Nephritis.—The number of deaths registered under this heading, including uraemia, was 111, being the same as in the previous year. The death-rate, 1·71 per 1,000 population, was a shade less than in 1925. This group ranked third among the "Big Four" of fatal diseases during the year, the other three being diseases of the heart and blood vessels—199 deaths—first, pulmonary tuberculosis—183 deaths—second, and diarrhoea and enteritis—107 deaths—fourth. The deaths and death-rates from Bright's disease and nephritis in 1925 and 1926 showed an increase over 1924, but a decline on 1922 and 1923. The actual figures are as follows :—

Bright's Diseases and Nephritis.

Period.									Number of Deaths.	Death-rate per 1,000 population.
1922	..	..	..	..	..	..	..	..	165	2·64
1923	..	..	..	..	..	..	..	..	165	2·61
1924	..	..	..	..	..	..	..	..	98	1·53
1925	..	..	..	..	..	..	..	..	111	1·72
1926	..	..	..	..	..	..	..	..	111	1·71
Annual Average ..									130	2·04

Diarrhoea and Enteritis.—The deaths grouped under this heading include colitis and gastro-enteritis, and numbered 107, with a death-rate of 1·65 per 1,000 of population. This was a marked increase on the figures for the previous year when the number of deaths was 71 and the death-rate 1·10 per 1,000. Diarrhoeal diseases were more prevalent during the rains in the second half of what was an abnormally wet year, and 78, or 72·8 per cent. of the total deaths for which they were responsible, occurred among children under one year of age.

Figures showing the number of deaths month by month are given in Table XVIII.

Bronchitis.—There were 79 deaths from bronchitis, yielding a death-rate of 1·21 per 1,000 of population, compared with 83 deaths and a death-rate of 1·29 in the preceding year. Next to the "Big Four," bronchitis was the most important cause of death during the year. Fatalities from this disease are more frequent at the extremes of age. 16 deaths, or 20·2 per cent. of the total mortality, occurred among children under 1 year of age. The disease is also a common cause of death among old East Indians of the labouring class who, proportionately, suffer less from pulmonary tuberculosis—probably in some measure due to their characteristic habits of outdoor living—than the native population.

Cancer.—The deaths ascribed to cancer and other malignant diseases numbered 48, or 9 in excess of the record for the previous year—equivalent to a death-rate of 0·74 per 1,000 of population. After a rise from 56 deaths in 1922 to 61 in 1923, there was a marked drop to 37 deaths from the disease in 1924, followed by a slight rise to 39 in 1925, and a high jump to 48 deaths this year. Much valuable work is being done in England and elsewhere, notably by the British Cancer Research Campaign, towards the discovery of a cure for the various forms of this dreadful disease, and it is more than probable that the brilliant and persistent efforts which are being made in that direction will, eventually, be crowned with success; but, for the present, the surest hope for cure—and mainly by surgical means—lies in early diagnosis. It is therefore imperative that expert medical advice should be taken without delay in every case in which there may be the slightest ground for suspecting the onset of this disease.

Deaths in hospital and deaths at home from non-notifiable infectious disease are compared in Table XVII.

The vital statistics presented in the foregoing part of this report are amplified in Tables I to XVIII appearing in Appendix A.

II.

SANITARY CONDITIONS.

Rainfall.—The rainfall was excessive during the wet months of the year and there was heavy flooding in the low-lying portions of the City causing a good deal of damage, and leaving an aftermath of swampiness and damp. The average of the rainfall gauged at three stations, viz. : the St. Clair Experiment Station, the Colonial Hospital and Constabulary Headquarters was 67·26 inches—an excess of 20·5 inches over the previous year. 8·5 inches fell in the first part of the year, which was somewhat drier than the same period of the previous year when the rainfall was nearly an inch more ; but, in the second half of the year, the rainfall was 58·76 inches, compared with 37·09 inches in 1925—an excess of 21·67 inches. The wettest months were September, August, November and December, with 10·03, 9·86, 9·05 and 7·35 inches of rain, respectively : the driest were April, March, February and January, with 0·13, 0·23, 0·27 and 0·47 inches, respectively. Tables XIX and XX, the figures for which were obtained through the courtesy of the Director of Agriculture, show the rainfall from month to month in 1926, and the relative records for the preceding year.

FOOD.

Food Bye-Laws.—In his Annual Report for 1923, the writer made reference to the insanitary custom which prevails, especially in the lower portions of the town, of exposing food for sale on the bare ground in shop door-ways, gate-ways and on street pavements. In section 58 of the report he also stated as follows :—“ Besides the ground ‘ marchands ’ nearly every barrack abutting on the street is used as a shop of some sort—for selling bread, cakes, confectionery, cool drinks, fruit, fried fish, ‘ floats ’ and ‘ accras ’ and other articles of cooked or uncooked food. In a large proportion of cases these shops are insanitary and unfitted for the purpose of selling clean food. Occasionally well-advanced cases of enteric fever or tuberculosis are notified from such places, medical aid not having been summoned until the patient had grown very ill. In one case a woman who ran a ‘ tuck ’ shop in a gateway was also attending on her child lying ill with enteric fever. No one would suggest a ruthless or inconsiderate interference with the means of livelihood of this class of poor person, but for sanitary reasons and the protection of the health of the public, especially the large number of children who are their principal customers, it is right that these shops should be regulated, and for that purpose I suggest that steps be taken to make bye-laws requiring the registration—without fee—of all such shops, so that they may be kept under proper sanitary control, and providing for the conditions under which they may be established.”

After some delay the Local Authority decided to take the necessary steps to have section 156 of the Public Health Ordinance amended so as to provide the powers for making the suggested bye-laws for the better regulation of the sale of food for human consumption.

The following draft amendment of the Ordinance was approved by the Local Authority and submitted to the Central Board of Health :—

Section 156 of the Principal Ordinance is hereby amended by adding thereto the following sub-sections :—

- (7) the registration of all persons keeping or employed in retail shops or places where any article of food cooked or uncooked and intended for human consumption is prepared, deposited, exposed or offered for the purpose of sale.
- (8) the registration of all persons conveying, selling or delivering from house to house, inside or outside any building or any street or public place any foodstuffs, bread, cakes, pastry or other confectioneries, cooked food, sweet drinks, ices and other solid or liquid refreshments used or intended to be used for human consumption.
- (9) the licensing of any place in which a retail shop is kept or intended to be kept.
- (10) prescribing the terms and conditions on which persons mentioned in sub-sections (7) and (8) hereof may be registered, and the places mentioned in sub-section (9) hereof may be licensed.

CLASSIFICATION OF CAUSES OF DEATH IN THE URBAN SANITARY DISTRICT OF
PORT-OF-SPAIN DURING THE SECOND QUARTER OF THE YEAR, 1927.

Total Deaths.			April—114.					May—121.					June—114.							
			City.	St. Clair.	East Dry River.	Belmont.	Woodbrook.	Total.	City.	St. Clair.	East Dry River.	Belmont.	Woodbrook.	Total.	City.	St. Clair.	East Dry River.	Belmont.	Woodbrook.	Total.
1.—NOTIFIABLE INFECTIOUS DISEASES :																				
Enteric Fever	..	3	...	...	...	...	3	...	...	1	...	...	1	...	...	...	...	...	...	...
Diphtheria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Membranous Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	...	7	...	5	1	3	16	6	...	3	2	...	11	4	...	...	3	...	...	7
Pneumonia & Broncho-Pneumonia	...	...	...	...	...	...	...	1	...	...	...	...	1	3	...	...	...	1	...	4
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Yellow Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2.—OTHER DISEASES :																				
(a) General Diseases :—																				
Malaria	...	...	...	1	1	...	2	1	...	1	...	...	2	1	...	2	...	...	...	3
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3	...	1	6
Tuberculosis (other forms)	...	1	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	1
Cancer & other Malignant Diseases	...	4	...	3	...	1	8	4	...	...	1	2	7	1	...	...	2	1	...	4
Blackwater Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Beri-Beri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other General Diseases	...	2	...	...	1	...	3	1	...	3	...	...	4	3	...	...	...	...	...	3
(b) Diseases of the Nervous System and the Organs of Special Sense :																				
Simple Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebral Hæmorrhage	...	3	...	1	...	...	4	5	...	...	1	...	6	...	...	...	...	...	...	...
Apoplexy	...	...	...	...	...	...	...	...	...	2	...	...	2	...	...	...	...	...	...	...
Convulsions of Children under 5 years of age	...	1	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Nervous System	...	3	...	2	...	...	5	5	...	...	...	1	6	3	...	2	3	1	...	9
(c) Diseases of the Circulatory System :—																				
Cardiac and Vascular Diseases	...	14	...	...	...	...	14	13	...	...	1	...	14	7	...	6	4	1	...	18
(d) Diseases of the Respiratory System :—																				
Bronchitis	...	5	...	2	1	3	11	6	...	1	1	2	10	4	...	2	...	2	...	8
Other Diseases of the Respiratory System	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...
(e) Diseases of the Digestive System :																				
Diarrhœa and Enteritis	...	1	...	...	1	...	2	2	...	2	1	1	6	4	...	3	...	1	...	8
Ankylostomiasis	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...
Cirrhosis of Liver	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2
Other Diseases of the Digestive System	...	3	...	3	...	...	6	2	...	2	2	...	6	4	...	...	3	1	...	8
(f) Venereal Diseases of the Genito-Urinary System :—																				
Syphilis	...	1	...	...	...	...	1	2	...	2	2	2	8	4	...	1	1	...	...	6
Other Venereal Diseases	...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	1	...	...	2
(g) Non-Venereal Diseases of the Genito-Urinary System :—																				
Bright's Disease	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1
Nephritis	...	4	...	1	3	...	8	2	...	1	1	3	7	4	...	...	...	...	...	4
Other Non-Venereal Diseases	...	...	...	1	...	...	1	2	...	2	1	...	5	1	...	...	...	...	...	1
(h) Diseases of the Puerperal State :																				
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Eclampsia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Septicæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Puerperal Diseases	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	1
(i) Diseases of Early Infancy																				
	...	3	...	5	2	1	11	3	...	4	1	...	8	2	...	6	...	...	...	8
(j) Old Age																				
	...	6	...	1	1	...	8	11	...	1	1	1	14	8	...	2	...	...	...	10
(k) Affections produced by External Causes :—																				
Burns	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Accidents and Injuries	...	1	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...
(l) Other Causes of Death																				
	...	2	...	2	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	65	...	27	12	10	114	68	...	25	16	12	121	58	1	31	16	8	...	114

PORT-OF-SPAIN CITY COUNCIL.

PUBLIC HEALTH DEPARTMENT.

Report on the Health of the Urban Sanitary District of Port-of-Spain and the Work of the Sanitary Staff for the month of June, 1927.

Secretary, Local Authority.

The Report on the Health of Port-of-Spain and a summary of the work of the Sanitary Staff for the month of June are submitted for the information of the Local Authority.

I. - VITAL STATISTICS.

Population of Port-of-Spain estimated to 30th June, 1926.....65,016.

Births.

Males.....72 Females.....53 Total.....130 | Birth-rate per 1,000 Pop. ..24·33 Still-Births....8

<i>Births and Birth-rates for June ...</i>				<i>1923</i>	<i>1924</i>	<i>1925</i>	<i>1926</i>	<i>1927</i>
Births	...	...	...	163	152	139	128	130
Birth-rates	...	...	...	31·75	29·31	26·44	24·13	24·33

Deaths.

Males.....58 Females.....56 Total.....114 | Death-rate per 1,000 Pop. 21·33

<i>Deaths and Death-rates for June...</i>				<i>1923</i>	<i>1924</i>	<i>1925</i>	<i>1926</i>	<i>1927</i>
Deaths	...	...	...	117	129	134	141	114
Death-rates	...	...	...	22·79	24·87	25·49	26·58	21·33

Infantile Mortality.

Deaths under 1 year ... 21 | Death-rate per 1,000 Births 192·31

<i>Deaths and Death-rates under 1 year for June</i>				<i>1923</i>	<i>1924</i>	<i>1925</i>	<i>1926</i>	<i>1927</i>
Deaths	...	...	...	25	25	23	25	21
Death-rates	...	...	...	153·37	164·47	165·47	195·31	192·31

Distribution of Deaths.

<i>For June ...</i>	<i>1923</i>	<i>1924</i>	<i>1925</i>	<i>1926</i>	<i>1927</i>	<i>For June ...</i>	<i>1923</i>	<i>1924</i>	<i>1925</i>	<i>1926</i>	<i>1927</i>
PUBLIC INSTITUTIONS.						CITY AND SUBURBS.					
Colonial Hospital	38	43	56	76	36	City	22	26	26	25	27
House of Refuge	6	18	10	9	13	St. Clair	—	—	—	—	1
Royal Gaol	—	—	1	1	1	East Dry River...	31	15	22	17	16
Ariapita Asylum	2	—	1	1	1	Belmont	11	17	10	3	12
						Woodbrook	7	10	8	9	7
Totals	46	61	68	87	51	Totals	71	63	66	54	63

II. - CLASSIFICATION OF CAUSES OF DEATH.

1.—* NOTIFIABLE INFECTIOUS DISEASES :—

Enteric Fever.....	—
Diphtheria.....	—
Membranous Croup	—
Pulmonary Tuberculosis	7
Pneumonia and Broncho-Pneumonia.....	4
Plague.	—
Cholera.....	—
Small Pox.....	—
Chicken Pox.....	—
Yellow Fever.....	—

2.—OTHER DISEASES :

(a) General Diseases :—

Malaria.....	3
Whooping Cough... ..	—
Influenza.....	—
Dysentery.....	6
Tuberculosis (other forms).....	1
Cancer and other Malignant Diseases.....	4
Blackwater Fever.....	—
Beri-Beri.....	—
Other General Diseases.....	3

(b) Diseases of the Nervous System and the Organs of Special Sense :—

Simple Meningitis.....	—
Cerebral Hemorrhage.....	—
Apoplexy.....	—
Convulsions of Children under 5 years of age.....	—
Other Diseases of the Nervous System ..	9

(c) Diseases of the Circulatory System :—

Cardiac and Vascular Diseases.....	13
------------------------------------	----

(d) Diseases of the Respiratory System :—

Bronchitis.....	8
Other Diseases of the Respiratory System	—

(e) Diseases of the Digestive System :—

Diarrhœa and Enteritis.....	8
Ankylostomiasis.....	—
Cirrhosis of Liver.....	2
Other Diseases of the Digestive System ...	8

* Deaths of cases of infectious diseases notified in any previous month are also included in this table.

II.—CLASSIFICATION OF CAUSES OF DEATH.—Continued.

(f) Venereal Diseases of the Genito-Urinary System :—			(i) Diseases of Early Infancy.....			8
Syphilis.....	6		(j) Old Age.....	10		
Other Venereal Diseases.....	2		(k) Affections produced by External Causes —			
(g) Non-Venereal Diseases of the Genito-Urinary System :—			Burns	—		
Bright's Disease.....	1		Accidents and Injuries.....	—		
Nephritis.....	4		(l) Other causes of Death.....	—		
Other Non-Venereal Diseases.....	1					
(h) Diseases of the Puerperal State :—						
Puerperal Fever.....	—					
Puerperal Eclampsia.....	—					
Puerperal Septicæmia.....	—					
Other Puerperal Diseases.....	1					
			Total.....	114		

III.—NOTIFICATION.

Table A —Infectious Diseases notified (and deaths therefrom) during the month under section 104, Public Health Ordinance, Cap. 98.

DISEASES.	TOTAL CASES.			CASES TREATED PRIVATELY.			CASES REMOVED TO HOSPITAL.		
	Cases Notified.	Deaths.	Percentage of Deaths to notifications.	Cases Notified.	Deaths.	Percentage of Deaths to notifications.	Cases Notified.	Deaths.	Percentage of Deaths to notifications.
Diphtheria	1	...	...	1	...	...	...	...	...
Membranous Croup .. .. .	...	...	...	...	...	...	...	...	...
Typhoid or Enteric Fever	7	...	...	2	...	...	5	...	...
Plague .. .. .	...	...	...	...	...	...	...	...	...
Cholera .. .. .	...	...	...	...	...	...	...	...	...
Yellow Fever .. .. .	...	...	...	...	...	...	...	...	...
Small-pox .. .. .	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	10	2	20·00	2	1	50·00	8	1	12·50
Tuberculosis (other forms)	2	...	...	...	...	...	2	...	...
Pneumonia	6	2	33·33	...	...	...	6	2	33·33
Ophthalmia Neonatorum	3	...	...	2	...	...	1	...	...
Chicken Pox .. .. .	...	...	...	...	...	...	...	...	...
Grand Total	29	4	13·79	7	1	14·29	*22	3	13·64

Number of cases notified :—

(a) By Private Practitioners	6
(b) By Government Medical Officers	23

* Of the cases treated in the Colonial Hospital 2 were sent in by private practitioners.

Table B. —Distribution of cases and deaths specified in Table A. above.

DISEASES.	CITY.		ST. CLAIR.		EAST DRY RIVER.		BELMONT.		WOODBROOK.	
	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.
Diphtheria .. .. .	...	...	...	...	1	...	...	...	...	...
Membranous Croup .. .. .	...	...	...	...	...	...	...	...	...	...
Typhoid or Enteric Fever	4	...	...	...	2	...	1	...	...	...
Plague .. .. .	...	...	...	...	...	...	...	...	...	...
Cholera .. .. .	...	...	...	...	...	...	...	...	...	...
Yellow Fever .. .. .	...	...	...	...	...	...	...	...	...	...
Small-pox .. .. .	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	7	2	...	...	2	...	...	...	1	...
Tuberculosis (other forms)	1	...	...	...	...	...	...	...	1	...
Pneumonia	2	1	...	...	3	1	1	...	...	...
Ophthalmia Neonatorum	1	...	...	...	1	...	...	...	1	...
Chicken Pox .. .. .	...	...	...	...	...	...	...	...	...	...
Grand Total	15	3	...	...	9	1	2	...	3	...

IV—SANITARY WORK.

(A) INSPECTION OF PREMISES.

(a) Total visits to premises ... 8,097

(b) Provision and Meat Shops inspected	...	143	Coffee Shops inspected	...	1
Provision Stores do.	...	25	Goat Pens do.	...	16
Restaurants and Cookshops do.	...	32	Plantain Carts do.	...	22
Common Lodging Houses do.	...	17	Bread Carts and Baskets do.	...	43
Dairies and Cowsheds do.	...	30	Boats do.	...	39
Stables do.	...	61	Spirit Shops do.	...	42
Schools do.	...	30	Fry Shops do.	...	22
Dyeworks do.	...	5	Hotels do.	...	17
Barber Shops do.	...	17	Markets do.	...	4
Aerated Water Factories do.	...	11	Laundries do.	...	11
Other Factories do.	...	18	Tanneries do.	...	9
Cake and Ice Cream Shops do.	...	156	Garages do.	...	26
Fresh Fish Trays do.	...	83	Sweet Drink Carts do.	...	33
Bakehouses do.	...	48	Public Urinals do.	...	4
Bread Depôts do.	...	8	Reclaimed Lands do.	...	
Ice Cream Carts and Pails do.	..	45	Dumping Grounds do.	...	
Cake Trays and Baskets do.	...	53	Dry River do.	...	
Provision Trays do.	...	80	Lapeyrouse Cemetery do.	...	
Soap Factories do.	...	3	Brewery do.	...	
Breakfast Sheds do.	...	1	Slaughtery do.	...	

(B) RESULTS OF NOTICES AND VERBAL DIRECTIONS.

Yards paved	...	...	1	Flush tanks installed	...	...	4
Yard pavements repaired	...	...	11	Bread Carts repaired	...	...	14
Yards filled in	...	...	83	Trees trimmed	...	...	5
Yards cleaned	...	...	234	Dustbins repaired	...	...	38
Drains constructed	...	...	17	Dustbins cleaned and disinfected	...	...	103
Drains repaired	...	...	82	Unecovered Dustbins covered...	...	...	53
Drains cleaned	...	...	146	Houses ventilated	...	...	2
Washing troughs cleaned	...	...	36	Roofs closeboarded	...	...	1
Sinks cleaned	...	...	31	Premises cleared of bush	...	...	66
Gullies cleaned	...	...	37	Concrete floors of cowsheds repaired	...	...	3
Lavatories cleaned	...	...	4	Do. stables do.	...	...	1
Washing platforms cleaned	...	...	48	Do. bakehouses do.	...	...	2
Sewer basins cleaned	...	...	108	Do. bathrooms do.	...	...	2
New privies built	...	...	11	Retail Shops cobwebbed	...	...	28
Privies repaired	...	...	58	Parlours do.	...	...	12
Privies made flyproof	...	...	18	Barracks do.	...	...	6
New cesspits constructed	...	...	8	Stables do.	...	...	2
Cesspits repaired	...	...	17	Provision Stores do.	...	...	2
Accumulations of manure removed	...	...	16	Concrete walls of cowsheds repaired	...	...	1
Cesspits emptied	...	...	133	Bakehouses scrubbed	...	...	1
Cesspits oiled (paid for)	...	...	139	Dairies do.	...	...	2
Rat holes stopped	...	...	13	Restaurants do.	...	...	2
Sanitary dustbins provided	...	...	76	Hotels do.	...	...	1
Kitchens repaired	...	...	1	Parlours do.	...	...	22
Urinals cleaned	...	...	8	Spirit Shops do.	...	...	10

(C) DISINFECTION.

Premises disinfected for Tuberculosis	...	14	Premises disinfected for	...	
Do. Enteric Fever	...	6	Ophthalmia Neonatorum	...	1
Do. Pneumonia	...	4	Premises disinfected for Vermin	...	55
Do. Diphtheria	...	1	Railway cars disinfected for Yaws	...	—
Do. Leprosy	...	—	Do. do. Leprosy	...	3
Do. Chicken Pox	...	—	Do. do. Tuberculosis	...	—
Do. Measles	...	—	Cesspits oiled and disinfected for Enteric	...	
			Fever (free)	...	990
			Common lodging houses linewashed	...	2

(C) DISINFECTION—*Continued.*

Privies	limewashed	...	117	Kitchens	limewashed	...	5
Cowsheds	do.	...	5	Barracks	do.	...	3
Bakehouses	do.	...	3	Cake Shops	do.	...	1
Stables	do.	...	1	Tanneries	do.	...	1

(D) DESTRUCTION OF RATS AND MICE.

Rats caught by Gangs	...	...	465
Rats bought	...	...	90
Total rats destroyed	...	...	555
Mice caught and destroyed	...	...	71

(E) EXAMINATION OF RATS BY THE GOVERNMENT BACTERIOLOGIST.

Rats examined for plague	...	...	555
Rats found infected with plague	...	...	—
Inmature rats not examined	...	...	—

(F) ANTI-MOSQUITO WORK.

Premises visited	...	...	2,717
Found in good order	...	...	2,550
Defective Eaves Gutters	...	...	167
Defective Eaves Gutters containing water	...	...	67
Defective Eaves Gutters containing water with mosquito larvæ	...	...	56
Number of premises in which mosquito larvæ were found in tubs, antiformicas, tin cans, &c.	...	...	194

(G) REPORTS TO WATER AND SEWERAGE DEPARTMENTS.

Leaks, defective taps, chokes, &c., reported	49
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V.—FOODSTUFFS SEIZED AND DESTROYED.

Under the Public Health (Amendment) Ordinance No. 17 of 1919 the following articles of food were seized and destroyed :—

Nil.

VI.—PROSECUTIONS.

Under the Public Health Ordinance, Cap. 98, there were 3 prosecutions with 3 convictions as follows:—

For failing to keep dustbins covered—1. Fine, 10/-

For exposing foodstuffs for sale without protection from contamination—1. Fine, 2/6.

For exposing foodstuffs for sale at a height less than 2 feet from the ground—1. Fine, 7/6.

GEORGE H. MASSON,
Medical Officer of Health.

11th July, 1927.

The following section was also recommended to be added to the Principal Ordinance as Section 156A:—

For the purpose of this part of the Ordinance “employed” as applied to any person includes any person working, selling or handling food intended for the purpose of sale in any retail shop, refreshment parlour, cookshop, restaurant or similar place whether such person receives wages or not.

After considering this suggested amendment the Central Board of Health requested the Local Authority to submit a draft of the bye-laws intended to be made thereunder.

At this stage the writer was absent on leave from the Colony and the matter remained in abeyance for some months. In the meanwhile the Central Board of Health referred the draft to the Attorney-General by whom certain amendments were made, the principal of which were the substitution of “licensing” in place of “registration” in sub-sections (7) and (8) and the addition of a new sub-section providing for charging a fee in respect of licenses issued under the new bye-laws.

The amended draft was subsequently returned to the Local Authority for their approval, and at the close of the year was still under consideration.

Bakehouses.—During the year 49 bakehouses were entered in the register, and of these 42 were renewals, the remainder being new entries. Mainly on account of the high cost of mechanical power and the cheapness of manual labour, bread-making by machinery has not yet superseded the old-fashioned hand method with all its insanitary and repulsive features. In recent years great strides have been made in other countries in respect of clean bread production, without any handling whatever of the materials from the beginning of the process right down to the end, when the loaf or other product emerges from the machine wrapped up and sealed in a clean paper bag. An innovation of this kind, though not at present compellable by law, would undoubtedly increase the custom of any enterprising firm of bakers willing to take the lead in sanitary bread-making and, at the same time, confer a boon on the inhabitants of the City.

Of the total number of registered bakehouses 29 are situated in barrack yards. This makes the sanitary control of such bakehouses increasingly difficult, especially where cases of enteric fever, or other infectious diseases, occur in the barrack yard. Besides this, it is difficult to prevent the nuisance of fowls, dogs and other domestic animals kept by tenants in the yard straying in and out of the bakehouse.

The writer therefore suggests that power be obtained to strengthen the bye-laws by adding a similar clause to section 6 of the bye-laws made with respect to aerated water factories and workshops providing that no bakehouse shall be built or established in any barrack or barrack yard.

MILK.

In the Public Health Ordinance “Dairy” includes any farm, farm-house, cowshed, mi'k store, mi'k shop, or other place from which mi'k is supplied or in which mi'k is kept for the purpose of sale. “Dairyman” includes any cowkeeper, purveyor of milk or occupier of a dairy within the district of the Local Authority.

The bye-laws under the Ordinance with respect to the Sale of Milk provide for the registration of persons keeping cows, the licensing of cowsheds or places in which cows are kept for the sale of mi'k, and of dairymen and milk vendors or milk hawkers.

Every person actually vending or carrying milk on behalf of any dairyman or licensed vendor of milk must carry a badge supplied by the Local Authority and exhibit such badge whenever required to do so by any officer of the Local Authority.

During the year 46 persons were registered as cowkeepers within the City. 36 cowsheds and 42 dairymen were licensed—6 of the latter in respect of milk shops. Of the cowsheds, 16 were situated in the sewered portion of the City, 3 in East Dry River (unsewered) 7 in Belmont (unsewered) and 13 in Woodbrook (unsewered). The total number of milk vendor's licenses issued and badges supplied were, respectively, 265 and 330. Of these, 42 licenses and 52 badges related to dairies situated within the City, and the remainder, viz. :—223 licenses and 278 badges, to dairies situated without the City.

Hereunder is tabulated the distribution of licenses issued to milk vendors and of badges supplied to persons actually selling or delivering milk in the City on behalf of dairymen or licensed vendors of milk :—

Milk Vendor's Licenses and Badges.

Situation of dairy, &c.							Milk Vendor's licenses issued.	Badges supplied.
Port-of-Spain	..	..	..	..	..	..	42	52
San Juan	..	..	..	..	..	..	144	186
St. James	..	..	..	..	..	..	34	39
Maraval	..	..	..	..	..	..	29	32
Laventille	..	..	..	..	..	..	6	8
Diego Martin	..	..	..	..	..	..	4	7
St. Joseph	..	..	..	..	..	..	3	3
Cascade	..	..	..	..	..	..	2	2
St. Ann's	..	..	..	..	..	..	1	1
Total	..	..	..	..	..	..	265	330

With few exceptions the dairymen and licensed milk vendors, especially in the out-districts, are small tradesmen, usually East Indians, owning a cow or two.

In Port-of-Spain every cowshed is provided on the premises with a pure and constant supply of chlorinated water, from the City waterworks, but in the out-districts conditions are different. Water is rarely available on the premises and has to be carried from a distance, the usual sources being either some shallow, unprotected well, or neighbouring stream. In times of drought the supply is scanty as well as impure. By constant sanitary supervision the Sale of Milk bye-laws relating to dairies and the precautions to be taken for protecting milk against infection or contamination are gradually being observed, but not rigidly so, mainly on account of pardonable ignorance or lack of appreciation of modern sanitary methods on the part of a large proportion of the dairymen engaged in the trade, and, also, their inability or unwillingness to provide the facilities and equipment necessary for the production of a clean and wholesome milk supply. It is evident that something more than the force of legislation is needed to bring about this desired result, and the good effect of a campaign of education in pure milk production, in which the Agricultural Department might be invited to co-operate with the Local Authority, through its veterinary staff, is suggested as being worthy of consideration.

In the Annual Report for the year 1923 the writer recommended the establishment by the Local Authority of a model dairy in Woodbrook as an example that might be followed by the trade. If this experiment were tried in Port-of-Spain and other milk-producing centres, further interest in improving the wholesomeness of the milk supply could be stimulated by the offer of substantial prizes annually for the best kept dairies and cowsheds.

With the invaluable assistance of the Agricultural Society which, as a member of that body, the writer believes would be willingly given, there should be no great difficulty in carrying out the arrangements for the competitions, and planning them so that the awards could only be made after numerous surprise visits of inspection to the competing dairies.

The question of municipal pasteurisation of the City milk supply is sometimes raised, but apart altogether from administrative difficulties, the writer, after careful consideration, is of opinion that greater benefit would accrue to the community in the long run by educating the dairymen in methods of clean milk production. At the same time it does appear that there is room in Port-of-Spain for a Dairy Company with sufficient capital to keep its own herds under such hygienic conditions as would ensure the production of clean, wholesome milk, and take over by purchase or other arrangement the milk produced by small dairymen for pasteurisation and distribution in sealed bottles.

Signs are not wanting that the milk trade is a profitable one, and with proper organisation it should not only be made to pay but, also, to be a wholesome source of valuable food supply, especially to children and invalids.

In the meantime consumption, in the raw state, of milk sold locally is not without danger, and the writer recommends the customary practice of having it boiled before use as a safe one, which should invariably be observed.

WATER SUPPLY.

The water supply of the City was constant throughout the year, and of ample quantity and good quality. Except at Cascade, where the river water is filtered through sand and is of uniform good quality; the supply from each of the other sources, viz. :—the Maraval and St. Ann's rivers, and the St. Clair, Cocorite and Diego Martin wells, is separately chlorinated with liquid chlorine by means of a Paterson Chloronome apparatus. After chlorination the Maraval supply is filtered at St. Clair through the battery of rapid pressure filters installed there. It is evident that these Bell's filters, of which there are twelve in use, would give more satisfactory results if their number were increased by several units. As they stand, the amount of water passing through them at certain times of the day often exceeds their filtration capacity, which results in a sacrifice of efficiency to rapidity of flow. This eventuality was foreseen at the time of the installation of the filters some twenty years ago, and in laying the works space was reserved for additional units. This is an important matter which deserves the early consideration of the Local Authority.

Dosing the various sources of supply with small quantities of permanganate of potassium has been successful in preventing the formation of "iodoform" taste, and the complaints which were rife in the early stages, especially when chlorinated lime was being used, are now seldom heard. Sometimes, however, a chlorinous taste is observed, due to the presence of an excess of chlorine in the water. This trouble is mainly connected with the Maraval water supply, and arises from the difficulty of adjusting the dose of chlorine to suit the frequent, and often sudden, variations in the organic content of the river water. A great improvement in this condition of things would be effected by filtering the water before, instead of after, chlorination, thereby producing a filtrate of more uniform quality, free, in proportion to the efficiency of the filters, from suspended organic matter, and requiring a much reduced dosage of chlorine for its purification. The writer took the opportunity whilst on leave in London to consult the Paterson Engineering Company on this point, and proposes shortly to submit a concrete recommendation on the subject to the Local Authority.

During the year the mixed water supplies from Maraval, Diego Martin and Cocorite were examined by the Government Bacteriologist nearly every day.

Of 351 daily samples of the mixed waters taken from the Laboratory tap at the Colonial Hospital, 44, or 12.5 per cent., were found positive for *B. coli* in 50 c.c. Samples of raw and chlorinated waters were also collected week by week in

rotation from the several stations and occasionally found to be contaminated with *B. coli* in 50 c.c., or less, after treatment. Evidences of the possibility of human pollution are not distinctly apparent at Cocorite and Diego Martin, but under the sanitary conditions which exist at St. Ann's and, notoriously, at Maraval through which village the river passes on its way to the reservoir, the caution given by an eminent authority on potable water supplies that "Where *B. coli* is, the *B. typhosus* may be" applies with great force. To be forewarned is to be forearmed, and the writer is hopeful that as experience of the microbiology of the water supply at different periods of the year gradually accumulates, and improvements in the methods of purification are adopted, it will be found possible to deliver to the consumers a consistently safe water, testing negative for *B. coli* in 100 c.c., and free from chlorinous or other noticeable taste. To these ends it is advisable, that besides daily bacteriological examination for the presence of indicator organisms, the water should be chemically tested for unabsorbed chlorine as frequently as can be arranged for with the Government Analyst.

The writer cannot conclude this subject without making special mention of the valuable services rendered to the Local Authority by Dr. Pawan, the Government Bacteriologist, in regularly examining the water supply for evidences of excretal contamination.

DRAINAGE.

The street drains of Port-of-Spain are a credit to the Municipality. Photographs of some of the big, concrete channels in Belmont have been reproduced in books as good examples of tropical drainage work.

The new concrete drains constructed south of Wrightson Road and extending down to the sea from Charles Street, Duke Street, Colville Street, Gatacre Street and French Street, respectively, are, also, fine specimens of their kind, and have been effective in relieving near-by residents of the nauseating smells which formerly arose from the earthen drains replaced by them. Throughout the year the public drains were maintained clean and in good repair, but in Belmont and East Dry River the drainage of certain private lands, let as building lots, is unsatisfactory, and steps are gradually being taken under the Public Health Ordinance to compel the owners to do what is necessary to abate the nuisance caused thereby.

The Dry River.—Except for flood damage every two or three years, due in a great measure to the silting up of the river mouth, the Dry River is a greater nuisance in the dry than in the wet season. Mosquito larvae hatched in pools formed in the river-bed during the wet season are nearly always washed away by the torrents before the adult stage is reached; but, in the dry season, pools formed by occasional showers, if not drained or oiled in time, persist long enough for adult mosquitoes to emerge. Invariably, however, they are found to be culices which, fortunately, and unlike the anopheles variety, do not transmit malaria.

The dry season is, also, the time when the pools of stagnant water which collect below the bridges become most offensive. If the City drains which discharge into the western side of the river were regraded so as to flow in the opposite direction, and slop waters from Belmont and East Dry River were intercepted by underground sewers, such as are proposed to be laid in these districts, the offensive pools now formed in the river-bed, below the bridges, would cease to exist. In such circumstances the Dry River could be maintained throughout the year in good sanitary condition by the constant employment of a gang of men in preventing the overgrowth of bush and deposit of rubbish on its banks, and, also, in oiling, filling or draining storm water pools as occasion required.

In the meantime, pending the construction of such permanent works as may ultimately be decided upon for abating and preventing the recurrence of the Dry River nuisance, the writer strongly advises, as a temporary measure, that immediate steps be taken to have the stinking pools below the bridges drained as often as they are formed, in order to give the neighbourhood some ready relief from the annoyance and injury to health caused by the offensive, and sometimes unbearable, smells emanating from the river, more especially after sundown.

SEWERAGE AND SEWAGE DISPOSAL.

In the City there are 2,496 sewered premises, 4,420 cesspits, 12 local sewers and 10 pail closets. The sewerage system was maintained in efficient action throughout the year, and at no time was there any deficiency of the water supply.

A small portion of Woodbrook has been included in the sewerage area and several connections, including the Constabulary Station and the Woodbrook market, have been made. Many new buildings in that suburb have been provided with sewerage fittings connected to cesspools on the premises until they can be joined up with the City sewers.

During the year attention was drawn by the writer to the unsatisfactory manner in which the contents of cesspits emptied in the unsewered districts were disposed of at the sewerage works. After inquiry by a Committee of the Local Authority, certain recommendations were made with the object of preventing continued pollution of the adjoining foreshore, but it does not appear that any definite improvement has resulted: evidently some more efficient method of disposal is required to abate the continuing nuisance caused by the discharge of faecal sludge and crude faeces on the foreshore.

REMOVAL OF REFUSE.

A number of uncovered carts used for the collection of house and street refuse is still to be seen in the City, and the nuisance arising from them is frequently the cause of public annoyance and complaint. The writer strongly recommends that every cart employed in this service, which is an offensive trade within the meaning of the Public Health Ordinance, should forthwith be provided with a proper cover to prevent or diminish its offensiveness while in use, and to safeguard the public health.

HOUSING OF THE WORKING CLASSES.

Improvements in the houses owned by artisans and other persons of small means are mostly noticed in Woodbrook where a considerable number of rough two or four-room dwellings, occupied as barracks by two or more families, is converted every year into neat cottages for the occupation of single families. The absence of overcrowding in this suburb is reflected in the mortality and incidence of infectious disease which, next to the opulent district of St. Clair, are the lowest in the City. A few new barracks were built in the older portion of the City in conformity with the plans and specifications for barracks and barrack yards drawn up by the Central Board of Health, and are an improvement on the old style, in that they are raised from the ground, provided with bath and kitchen accommodation, and afford more privacy between the occupants of contiguous rooms. On the other hand, apart from putting louvres in the batten doors and windows for purposes of ventilation, very little is done by the owners to improve the sanitary condition and amenities of existing barrack yards. The overcrowding, lack of privacy and evil communications so often condemned in official reports, and by Press and Pulpit, still exist—and will continue to exist, because this system of housing is radically bad, and failing some well considered Municipal, or joint Government and Municipal, scheme for providing sanitary dwellings for the poor at low rentals, as a public health measure, the least that can be done to mitigate the evil is for the Local Authority to insist on the observance of the bye-laws made under the Public Health Ordinance with respect to such premises.

Common Lodging Houses.—The number of common lodging houses registered was 21. These places are mostly kept for and by East Indians. The standard of comfort in them is very low, and the most that can be said of the majority is that they keep the inmates under shelter at night and in wet weather. They are maintained under constant sanitary supervision and the bye-laws requiring them to be swept daily and scrubbed at least once a week are strictly enforced. They are also sprayed regularly every week with disinfectant to keep down vermin.

The main difficulty in respect to these houses is the overcrowding which takes place at night in spite of the considerable number of destitutes and casual workers who sleep on the street pavements and in the public squares.

Assuming that the new House of Refuge, when completed, will relieve the City of the destitutes, overcrowding of the common lodging houses by casual workers, able to pay a night's rent for themselves and their families, will still remain a problem to be solved from the moral no less than the sanitary standpoint. In most of these lodging houses the provisions for the maintenance of privacy are very primitive. The cubicles are generally separated from each other by loosely flapping screens of sacking or cotton cloth, and groups of parents, infants and young children of both sexes are mingled together in such close proximity as to leave little or no room for decency of any sort.

This state of things is aggravated by the unrestricted migration of idlers and former estate labourers from the country to the City where the housing accommodation is already taxed to its utmost by the permanent residents, and the writer begs to suggest that the situation might be relieved by some joint action between the Government and the Municipality for the purpose of providing suitable night shelters with separate accommodation for the sexes, and regulating the influx to the City of vagrants unable to provide themselves with decent lodging.

III.

SANITARY ADMINISTRATION.

The Staff placed under the direction of the writer for office work comprises a chief clerk and two assistants—all three of whom are qualified sanitary inspectors—and a messenger ; and for outdoor work, a chief sanitary inspector, 9 sanitary inspectors and 6 assistant sanitary inspectors ; 4 anti-mosquito gangs, each composed of 2 ladder men and a driver ; 4 rat gangs, each consisting of a driver and 3 boys. Each rat gang is equipped with a portable Clayton asphyxiator and a supply of traps, bait and poison. One or two gangs, according to the season of the year, are employed in oiling earthen drains, swampy lands, and pools in Woodbrook, the lower reaches of the Maraval River, and the bed of the Dry River. Two men, under the control of a sanitary inspector, attend to the disinfection of premises for infectious disease and, also, for vermin. The spraying of cesspits with oil is done by two gangs of two men each, under the general supervision of the sanitary inspector of the district in which they operate.

The sanitary condition of dairies and cowsheds, stables, offensive trades, bakehouses, bread carts and baskets, cake trays and baskets, ice cream carts and pails, and sweet drink carts, is supervised by a special inspector, who is provided with a bicycle for the purpose of his duties. Hotels, restaurants and cookshops, fry shops, provision and meat shops, markets, cake shops, ice cream shops, aerated water and other factories and workshops, spirit shops, and barber shops are specially looked after by another sanitary inspector, also provided with a bicycle. The scavenging and cleansing of the Eastern Market is personally supervised by the Chief Sanitary Inspector.

Sputa and other pathological specimens, sent by or submitted through the Department, are examined free of charge by the Government Bacteriologist, who, as already stated, also furnishes a daily report on a mixed sample of the water supply, and a weekly report on one or other of the various sources of supply.

The writer once more begs to draw the attention of the Local Authority to the pressing need for the services of an analytical chemist for the routine testing of the water supply, especially for the detection of free chlorine, and, also, for the analysis of samples of milk and other foodstuffs suspected of adulteration.

In accordance with a resolution of the Council adopted some considerable time ago on the writer's recommendation, it is advisable that early steps be taken to arrange with the Government, on such terms as may be agreed upon, for the performance at the Government Laboratory of all analytical work required by the Local Authority.

SANITARY WORK.

A summary of the work performed by the sanitary staff under the writer's direction and immediate supervision of the Chief Sanitary Inspector is given below :—

House to House Inspection.—During the year 110,828 visits of inspection were made to premises in the City—equivalent to an average of 9,235 visits per month. The monthly records of these visits, and, also, the number of provision shops and stores, meat shops, bakehouses, cake and ice cream shops, restaurants and cook shops, dairies and cowsheds, stables, aerated water and other factories and work-shops, tanneries, &c. inspected each month are given in Table A.

Results of Notices and Verbal Directions.—The requirements of notices and verbal directions were complied with in 22,135 instances, and the results, as shown in Table B, included 2,965 yards, 1,846 drains, 889 sewer basins, 555 sinks, 182 washing troughs, 296 washing platforms, 191 gullies, 51 lavatories cleaned, 7 new flush tanks and 5 sewer basins installed, 435 damp or swampy yards filled with earth, 497 accumulations of manure removed, 147 new drains constructed, 387 drains repaired, 165 privies built, 602 repaired, and 301 made fly-proof, 1,600 cesspits emptied, 154 constructed, 347 repaired, 4,301 sprayings of cesspits with crude and distillate oil at the owners' cost, and 19,688, or a monthly average of 1,639, further sprayings at the cost of the Local Authority (Table D), as a measure of prevention against the spread of enteric fever, 264 rat holes stopped, 903 new dustbins provided, 473 repaired, 751 covered, and 939 cleaned and disinfected ; 37 trees trimmed or felled ; 619 premises cleared of bush and 8 tree holes filled with cement ; 49 barracks ventilated, and the roofs of 33 close-boarded ; 190 retail shops cobwebbed, 114 scrubbed and 136 painted ; 64 bake-houses cobwebbed 31 repaired and 121 scrubbed ; 126 refreshment parlours cobwebbed, 117 scrubbed and 44 painted ; 113 barracks cobwebbed and 7 painted ; 78 urinals cleaned ; 70 stables cobwebbed, 123 scrubbed and 67 repaired ; 35 bread carts, 8 sweet drink carts, 15 ice cream carts, 35 huckster's cake trays, and 5 cake shops painted ; 9 barber's shops cobwebbed, 25 scrubbed and 10 painted.

Disinfection.—Particulars of this service are given in Table C. which shows that 505 premises were disinfected for infectious diseases and 519 for vermin. The special coach reserved for cases of infectious disease on the Trinidad Government Railway was disinfected on 25 occasions for leprosy (Table D).

Oiling of cesspits.—Table E gives a monthly record of the spraying of cesspits free of charge to the owners, with crude and distillate oil to prevent the breeding of gnats and flies, and as a protection against the transmission of typhoid infection by the latter. This precaution is taken at, and within a wide zone of, every premises in the unsewered portions of the City from which a case of enteric fever is notified.

Limewashing.—Table F. shows month by month the numbers of premises and places, totalling 1,692, limewashed as a result of notices or verbal directions. These included among others, 1,127 privies, 152 barracks, 107 stables, 81 bake-houses, 71 cowsheds, 28 kitchens and 24 refreshment parlours averaging 141 premises limewashed per month.

Unsound Food.—Table G. gives particulars of unsound foodstuffs seized and destroyed under Part X (a) of the Public Health Ordinance. The paucity of articles seized is mainly due to the fact that provision store dealers and shop-keepers have got into the habit of themselves reporting to the Public Health Department the existence of unsound food among their stores, and submitting the articles for destruction without the formality of seizure being necessary. This evidence of willingness to co-operate with the Department is appreciated and encouraged without relaxation of vigilance on the part of the food inspectors.

Destruction of Rats and Mice.—Table H. shows that 6,324 rats and 1,576 mice were destroyed. Of the former, 4,917 were caught by the rat gangs, and 1,407 purchased at the bounty rate of five cents for adult, and 3 cents for young rats. The rat gangs operate with traps and the portable Clayton asphyxiators, of which there are four—one to each gang. When attacked by the sulphur dioxide gas the rats either die in their holes or are clubbed as they rush out for fresh air. A total of 6,107 rats were examined by the Government Bacteriologist for *B. pestis* with negative results. 217 immature rats were not examined. (Table J.)

Anti-mosquito Work.—Details of the work done by the anti-mosquito gangs are shown in Table K. The ladder men made 27,477 visits to premises in the City. Defective eaves gutters were found on 783 occasions, defective eaves gutters containing water on 269 occasions, and defective eaves gutters containing water with mosquito larvae on 264 occasions. In 754 instances mosquito larvae were found on occupied premises in tubs, antiformicas, empty milk tins, &c.

8,062 gallons of crude oil were used in spraying pools and swampy ground in the low-lying portions of Woodbrook, and 389 gallons in oiling pools in the Dry River for the purpose of preventing the breeding of mosquitoes.

Reports to Water and Sewerage Departments.—Table L shows from month to month the leaks, chokes and other defects in water and sewerage fittings discovered, by sanitary inspectors in the course of their visits to premises, and reported to the Water and Sewerage Departments: the numbers totalled 1,040.

Prosecutions.—Table M. gives details of the offences for which informations under the Public Health Ordinance and the bye-laws made thereunder were laid before the City Magistrate, and the penalties imposed. Of 210 cases there were 209 convictions and 1 dismissal. The fines amounted to £209.

The following are among the principal offences for which the charges were laid :—

Failing to provide proper dustbins ....	....	....	....	....	....67 cases.
Keeping stagnant water in antiformicas, &c. ....	....	....	....	....	....32 do.
Failing to comply with notice requiring abatement of a nuisance ....	....	....	....	....	....26 do.
Failing to cause full cesspits to be emptied ....	....	....	....	....	....26 do.
Delivering milk without carrying a badge ....	....	....	....	....	....21 do.

The Tables relating to this part of the Report appear in Appendix II.

HEALTH WEEK.

In response to an invitation from the Royal Sanitary Institute received by the Local Authority, Health Week was observed from Sunday 5th to Saturday 9th October.

The interesting and instructive programme which appears below was successfully carried out by a Committee of the whole Council with the Deputy-Mayor, the Honourable A. H. McShine, M.D., as Convenor.

Health Week Programme.

Sunday, 3rd October.

4 p.m. :—Meeting of the Port-of-Spain Brotherhood, under the chairmanship of Mr. G. Wattley, addressed by Dr. E. A. Seagar, of the Imperial College of Tropical Agriculture and the Honourable Dr. A. H. McShine, Deputy-Mayor.

7 p.m. :—Sermon at Holy Trinity Cathedral on the objects of Health Week by the Revd. J. C. Pemberton.

Address at Greyfriars Presbyterian Church by the Honourable Dr. K. S. Wise, Surgeon-General.

9 p.m. :—Address at the Empire Theatre by Dr. C. F. Lassalle, Acting Deputy Surgeon-General.

Monday, 4th October.

8 p.m. :—Meeting of Church Workers and Guilds of St. Margaret's Belmont, under the chairmanship of Councillor T. I. Potter, addressed by Dr. C. F. Lassalle and the Honourable Dr. A. H. McShine.

Tuesday, 5th October.

- 8 p.m. :—Meeting of the Richmond Street Literary and Debating Club at Richmond Street E.C. School, under the chairmanship of the Honourable W. E. Jackson, Colonial Secretary, addressed by the Honourable Dr. K. S. Wise, Surgeon-General.

Wednesday, 6th October.

- 3 p.m. :—Students of St. Mary's College, under the chairmanship of Dr. E. Prada, Town Clerk addressed by Dr. C. F. Lassalle.
- 8 p.m. :—Students of St. Joseph's Convent, under the chairmanship of the Very Revd. Father English, Principal of St. Mary's College, addressed by Dr. C. F. Lassalle the lecture being illustrated by lantern slides on health subjects shewn by Mr. F. W. Urich.

Thursday, 7th October.

- 9 a.m. :—Address by Dr. H. Bishop, Assistant Medical Inspector of Health, to the boys of the Western Boys' School.
- 2.30 p.m. :—Address by Mr. C. L. Boissiere, Inspector of Animals and Meat to the City Council, at the Port-of-Spain Abattoir to the senior students of the Western Boys' School.
- 4.15 p.m. :—Open air public meeting in Woodford Square, organised by the Honourable Capt. A. A. Cipriani, addressed by Dr. T. P. Achong, Mr. Geo. Chambers, Capt. Cipriani, and others.
- 4.45 p.m. :—Exhibition of physical drill at the Prince's Building by the Girl Guides, under Mrs. K. S. Wise.
- 7.30 p.m. :—Meeting of the Union of Girls' Clubs at the Prince's Building organised by Mrs. B. Greig, addressed by Dr. E. A. Seagar.
- 9 p.m. :—Address by the Honourable Dr. A. H. McShine to the members of the Chess Club at the Richmond Street School.

Friday, 8th October.

- 9 a.m. :—Address by Mr. W. H. Gamble to pupils of Belmont Wesleyan School ; and by Dr. H. Bishop to pupils of Belmont E.C. School.
- 2.30 p.m. :—Address by Mr. C. L. Boissiere at the Abattoir to senior pupils of the Tranquillity Intermediate School and teachers in training at the Government Training School.
- 3.30 p.m. :—Address by Mr. C. L. Boissiere and the Honourable Dr. A. H. McShine to the senior students of the Eastern Government Girls' School.
- 8 p.m. :—Meeting in the Salvation Army Hall in Charlotte Street under the chairmanship of Alderman L. O. Inniss, addressed by the Honourable Dr. K. S. Wise and the Honourable Dr. A. H. McShine.
- 8.15 p.m. :—Meeting at the Y.M.C.A. Club rooms in Park Street under the chairmanship of Councillor T. I. Potter, addressed by Dr. H. Bishop and Mr. J. Chapman, Chief Sanitary Inspector of St. Vincent.
- 9 p.m. :—Short address by the Honourable Dr. K. S. Wise at a concert given by the Portuguese Club at their club rooms in Richmond Street.

Saturday, 9th October.

- 10 a.m. :—Address by Dr. C. J. Milne to the senior students of the Tranquillity Training School and the teachers in training at the Government Training College.
- 2 p.m. to 4.30 p.m. :—Baby health show at the Prince's Building, organised by the Child Welfare League under the direction of Dr. C. F. Lassalle and attended by His Excellency the Governor and Lady Byatt ; prizes distributed by Lady Byatt.
- 8.30 p.m. :—Public meeting at the Prince's Building under the auspices of the Port-of-Spain City Council, organised by the Honourable Capt. A. A. Cipriani, under the chairmanship of His Worship the Mayor, Alderman F. E. Bass ; addressed by Capt. Cipriani, Dr. E. A. Seagar, Mr. C. L. Boissiere, Dr. T. P. Achong, Dr. R. A. Steele and the Honourable Dr. A. H. McShine.

An open air meeting which had been arranged for Friday afternoon the 8th October, on the St. Vincent wharf, had to be abandoned on account of the wet weather.

In addition to the above, short addresses were delivered almost daily, and in some cases twice a day in most of the elementary schools of the City by Mr. F. C. Marriott, Director of Education, and by various medical men, and laymen, as well as by the head teachers of the schools.

74,000 leaflets were distributed on such subjects as Typhoid, Tuberculosis, Malaria, General Sanitation, "Clean Up," and the care of the mouth and teeth, &c., while a well-known street crier's services were utilised to educate the masses in matters of public health by means of graphic pictures. The leaflets were in great demand and were also distributed to schools, colleges, constabulary stations, &c. Health Week was also observed in several country districts, as at Tacarigua, Princes Town, Cedros, San Fernando and St. Joseph as a direct result of the campaign in Port-of-Spain.

It is not easy to overestimate the educative value of such an intensive health campaign as was carried out during that busy and instructive week. Sir Alexander Houston, Director of Water Examination for the Metropolitan Water Board, referring in his 1926 Annual Report to Health Week at Woolwich and East Ham, in the observance of which he took part last year, said "These Health Weeks have a value extending beyond the teaching of Hygiene ; they undoubtedly tend to bridge over the gap separating the classes from the masses ; and they show the very poor that those more happily situated are doing their best to spread the gospel of health and prosperity. If some people came out of curiosity, they went away with feelings creditable to themselves and affording ample reward to those concerned in the organisation of the functions. Knowing the lure of picture houses, dancing halls and public houses, the writer was amazed at the attendances and the way whole families turned up to learn the secrets of health. A new era has begun : the reasons why health regulations are imposed are being made clear to the people, they are no longer kept in the dark as to the why and the wherefore of things ; the consequence is that rules and regulations which in the past seemed oppressive and unnecessary are now coming to be recognised as essential to welfare and happiness."

To these remarks Sir Alexander, also, added " As regards the public utility services is it not much easier, to take a single example, to pay our water rate promptly and without grumbling *after* we have learnt something of the sources, manner of purification, and distribution of the supply, and learnt perhaps also to take a pride in it ? There naturally follows on this a pleasure in trying to avoid any waste of water."

LEGISLATION.

No new bye-laws were made during the year, but a draft amendment of the Public Health Ordinance to provide powers for making bye-laws for the better regulation of the sale of food for human consumption was prepared for the Local Authority and approved by them. After submission to the Central Board of Health the draft was returned with some suggested alterations, and is still under the consideration of the Local Authority.

REPORTS.

During the year the following regular reports were submitted, viz. :—

- Annual Report of the Medical Officer of Health for 1925.
- Monthly Reports on the Health of the City and the work of the sanitary staff —12.
- Quarterly Returns of Causes of Death—4.

Special reports were also made on the following subjects :—

- Outbreak of Alastrim—8.
- Chlorination of water supply.
- Draft Bill to amend the Public Health Ordinance.
- Unnumbered Premises in Woodbrook.
- Sanitary Condition of the foreshore near the Sewerage Works.
- Sanitary condition of aerated water factories.
- Prevalence of Mosquitoes in Woodbrook.
- Prevalence of Mosquitoes in Dry River.
- Miscellaneous subjects—16.

Besides the above, 60 reports were made to the Council on applications for leases in Woodbrook, and 64 other reports more on plans for the construction or alterations of buildings, each of which entailed a visit to the spot.

MEETINGS.

Before going on leave on 28th June the writer attended all the monthly meetings of the Local Authority, the statutory and special meetings of the City Council and several committee meetings. In his absence all such meetings were attended by his *locum tenens*.

FINANCIAL.

The Revenue collected by the Department during the year amounted to \$2,978.58 made up as follows:—

Sale of disinfectants	....	....	....	....	\$ 154.74
Disinfecting cesspits	....	....	....	....	1,517.22
Cleansing eaves gutters	....	....	....	....	16.56
Sale of milk badges	....	....	....	....	79.68
Dairyman's licenses	....	....	....	....	25.20
Milk vendor's or milk hawker's licenses	....	....	....	....	63.84
Oyster vendor's licenses	....	....	....	....	4.80
Fines	....	....	....	....	1,093.20
Miscellaneous receipts	....	....	....	....	23.34
					<hr/>
					\$2,978.58
					<hr/>

The Expenditure was \$30,579.61, divided as follows:—

Staff	....	....	....	....	....	\$19,224.48
Labour	....	....	....	....	....	5,757.22
Materials	....	....	....	....	....	5,597.91
						<hr/>
						\$30,579.61
						<hr/>

LEAVE.

With the approval of the Council the writer was appointed by the Government as Surgeon-Superintendent of a return immigrant ship sailing to Calcutta, and was absent on leave from the Colony from 28th June to 18th December, during which interval his duties were performed by Dr. E. N. Darwent.

The following officers were also granted leave during the year.

- (a) Vacation leave—Sanitary Inspector N. Guppy from 15th January to 18th February.
 Do. do. G. Charles from 20th February to 26th March.
 Do. do. J. H. Partap from 3rd March to 6th March.
 Do. Mr. W. R. Smith, Chief Clerk from 15th March to 20th March.
 Do. Sanitary Inspector W. G. Williams from 7th June to 10th July.
 Do. do. H. Thorne from 19th July to 28th August.
 Do. do. O. E. Forde from 13th September to 17th October.
 Do. Chief Sanitary Inspector E. W. Lack from 6th October to 15th October.
 Do. Sanitary Inspector J. D. Taylor from 27th October to 30th November.
 Do. do. G. Ashe from 2nd December to 31st December.
- (b) Sick leave —Sanitary Inspector N. Guppy from 24th February to 5th March and from 20th October to 29th October.
 Do. Sanitary Inspector J. H. Partap from 22nd April to 26th April.
 Do. do. W. G. Williams from 25th May to 2nd June.
 Do. do. J. H. Partap from 22nd October to 28th October.
 Do. do. O. E. Forde from 1st November to 10th November.

CONCLUSION.

In conclusion the writer begs to record his appreciation of Dr. Darwent's services during his absence from the Colony and, also, of the good work done by Captain Lack, Chief Sanitary Inspector, and all grades of the Sanitary Staff, especially during the anxious months of the alastrim outbreak.

Thanks are also due to Mr. Smith and Sanitary Inspector Ferreira, Cert. R. San. I., for their untiring patience and help in compiling the statistical returns from the office records.

Whilst on leave in England the writer visited the pumping station, filter beds and chlorination plant of the Metropolitan Water Board at Walton-on-Thames, the pumping stations and purification works at Barn Elms, Highfield, and at Deptford where the water is derived from deep wells, also the recently constructed sewerage disposal works at Hertford. In France he was taken over the reservoirs, filter beds and chlorination works at Ivry-sur-Seine, and the auto-javellisation plant of the Municipal wells at Rheims.

To Sir Alexander Houston, Director of Water Examination of the Metropolitan Water Board, Monsieur M. Diénert, Director of Water Examination of the City of Paris, and Dr. Téhoueyres, Director of the Bureau of Hygiene of Rheims, through whose courtesy and kindness these instructive visits were made, the writer begs to tender his most grateful thanks.

I have the honour to be,

Sir,

Your obedient Servant,

GEORGE H. MASSON,

Medical Officer of Health.

PORT-OF-SPAIN,

PUBLIC HEALTH DEPARTMENT,

TOWN HALL, JUNE, 1927.

IV.—APPENDICES.

APPENDIX A.—VITAL STATISTICS.—1926.

TABLE I.—Comparative Summary of Vital Statistics for 1925 and 1926.

Port-of-Spain.	1925—Population 64,535.		1926—Population 65,016.	
	Number.	Death-rate per 1,000 Population.	Number.	Death-rate per 1,000 Population.
Total Births	1,820	28.20	1,833	28.20
Total Deaths	1,492	23.12	1,568	24.12
Natural increase or decrease	+ 328		+ 265	
Deaths of Infants under 1 year	282	..	287	..
Infant Mortality Rate .. .. .	..	Per 1,000 Births 154.95	..	Per 1,000 Births. 156.57
Enteric Fever	20	0.31	26	0.40
Pulmonary Tuberculosis	148	2.29	183	2.81
Tuberculosis (Other forms)	17	0.26	17	0.26
Pneumonia and Broncho-pneumonia	63	0.98	62	0.95
Diphtheria	2	0.03	1	0.02
Malaria	53	0.82	67	1.03
Dysentery	31	0.48	31	0.48
Ankylostomiasis	7	0.11	15	0.23
Syphilis	80	1.24	65	0.99
Influenza	2	0.03	..	..
Diarrhoea and Enteritis	71	1.10	107	1.65
Bronchitis	83	1.29	79	1.22
Cancer and other Malignant Diseases	39	0.60	48	1.74
Diseases of Heart and Blood Vessels	190	2.94	199	3.06
Bright's Diseases and Nephritis	111	1.72	111	1.71
Still-births	153	Per cent. of Live-births 8.4	144	Per cent. of Live-births 7.8

TABLE I.—Showing monthly Births and Birth-rates.

Months.	Males.	Females.	Both Sexes.	Birth-rate per 1,000 Population.
January	76	88	164	30.19
February	73	66	139	28.08
March	73	67	140	25.54
April	98	80	178	33.56
May	89	75	164	29.92
June	65	63	128	24.13
July	79	92	171	31.19
August	72	72	144	26.27
September	56	69	125	23.56
October	79	82	161	29.37
November	94	82	176	33.18
December	72	71	143	26.09
Total	926	907	1,833	28.19

TABLE III.—Showing monthly Deaths and Death-rates.

Month.						Males.	Females.	Both Sexes.	Death-rate per 1,000 Population.
January	..	..	..	..	..	68	72	140	25.37
February	..	..	..	..	..	79	47	126	25.28
March	..	..	..	..	..	58	57	115	20.84
April	..	..	..	..	..	69	54	123	23.03
May	..	..	..	..	..	60	79	139	25.19
June	..	..	..	..	..	67	74	141	26.40
July	..	..	..	..	..	65	70	135	24.47
August	..	..	..	..	..	64	51	115	20.84
September	..	..	..	..	..	82	45	127	23.78
October	..	..	..	..	..	69	70	139	25.19
November	..	..	..	..	..	68	58	126	23.41
December	..	..	..	..	..	79	63	142	25.73
Total	..	..	..	..	..	828	740	1,568	24.12

TABLE IV.—Deaths at different age periods.

Period.						Males.	Females.	Total both Sexes.
Under 1 year	..	..	..	..	..	155	132	287
1-5 years	..	..	..	..	..	58	62	120
6-10 do.	..	..	..	..	..	15	11	26
11-15 do.	..	..	..	..	..	12	10	22
16-20 do.	..	..	..	..	..	24	28	52
21-25 do.	..	..	..	..	..	39	48	87
26-30 do.	..	..	..	..	..	45	42	87
31-35 do.	..	..	..	..	..	32	26	58
36-40 do.	..	..	..	..	..	49	45	94
41-45 do.	..	..	..	..	..	43	26	69
46-50 do.	..	..	..	..	..	52	40	92
51-55 do.	..	..	..	..	..	48	36	84
56-60 do.	..	..	..	..	..	49	38	87
Over 60	..	..	..	..	..	207	196	403
Total	..	..	..	..	..	828	740	1,568

TABLE V.—Deaths of Non-residents at Colonial Hospital.

Notifiable Infectious Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Enteric Fever	2	..	1	4	..	4	1	2	1	5	3	3	26
Pulmonary Tuberculosis	5	6	4	1	3	6	4	6	6	3	6	5	55
Tuberculosis (other forms) .. ..	..	..	..	3	..	1	..	..	..	..	..	..	4
Pneumonia	5	..	3	4	4	2	2	1	1	..	1	1	24
Diphtheria .. ..	..	1	..	..	..	..	..	..	..	..	..	..	1
Other causes of Death	32	12	11	20	29	16	32	18	29	22	17	20	258
Total	44	19	19	32	36	29	39	27	37	30	27	29	368

TABLE VI.—Classification of Causes of Death.

1.—NOTIFIABLE INFECTIOUS DISEASES :—

Enteric Fever	26
Diphtheria	1
Membranous Croup	—
Pulmonary Tuberculosis	183
Pneumonia and Broncho-pneumonia	62
Plague	—
Cholera	—
Small Pox	—
Chicken Pox	—
Yellow Fever	—

2.—OTHER DISEASES :

(a) General Diseases :—

Malaria	67
Whooping Cough	—
Influenza	—
Dysentery	31
Tuberculosis (other forms)	17
Cancer and other Malignant Diseases	48
Blackwater Fever	—
Beri-Beri	—
Other General Diseases	37

(b) Diseases of the Nervous System and the Organs of Special Sense :—

Simple Meningitis	1
Cerebral Haemorrhage	42
Apoplexy	8
Convulsions of Children under 5 years of age	1
Other Diseases of the Nervous System	61

(c) Diseases of the Circulatory System :—

Cardiac and Vascular Diseases	199
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(d) Diseases of the Respiratory System :—

Bronchitis	79
Other Diseases of the Respiratory System	15

(e) Diseases of the Digestive System :—

Diarrhoea and Enteritis	107
Ankylostomiasis	15
Cirrhosis of Liver	12
Other Diseases of the Digestive System	65

(f) Venereal Diseases of the Genito-Urinary System :—

Syphilis and Congenital Syphilis	65
Other Venereal Diseases	10

(g) Non-Venereal Diseases of the Genito-Urinary System :—

Bright's Disease	12
Nephritis	99
Other Non-Venereal Diseases	36

(h) Diseases of the Puerperal State :—

Puerperal Fever	—
Puerperal Eclampsia	1
Puerperal Septicaemia	5
Other Puerperal Diseases	7

(i) Diseases of Early Infancy

.. ..	160
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(j) Old Age

.. ..	65
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(k) Affections produced by External Causes :—

Burns	3
Accidents and Injuries	14

(l) Other causes of Death

.. ..	14
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Total 1,568

TABLE VII.—Showing monthly Still-births and rates per 1,000 Live-births.

Months.					No. of Still-Births.	Rate per 1,000 Live-Births.
January	..	..	..	..	16	6.5
February	..	..	..	..	12	8.6
March	..	..	..	..	10	7.1
April	..	..	..	..	16	8.9
May	..	..	..	..	16	6.5
June	..	..	..	..	7	5.4
July	..	..	..	..	6	3.5
August	..	..	..	..	13	9.0
September	..	..	..	..	5	4.0
October	..	..	..	..	23	14.2
November	..	..	..	..	11	6.2
December	..	..	..	..	9	6.2
Total	..	..	..	..	144	7.8

TABLE VIII.—Showing causes of deaths of Infants under 1 year.

Diseases.					1925.	1926.	Diseases.					1925.	1926.
Asphyxia	..	..	..	..	1	..	Icterus Neonatorum	..	..	..	..	3	
Asphyxia Neonatorum	..	..	..	..	12	1	Indigestion	..	..	..	1	..	
Atrophy	..	..	..	..	4	3	Intestinal Obstruction	..	..	..	3	..	
Bronchial Catarrh	..	..	..	..	..	1	Intussusception	..	..	..	2	..	
Bronchitis	..	..	..	..	13	16	Malaria	..	..	..	6	13	
Colitis	..	..	..	..	16	16	Malnutrition	..	..	..	22	22	
Congenital Debility	..	..	..	..	36	36	Marasmus	..	..	..	10	9	
Congenital Syphilis	..	..	..	..	35	20	Meningitis	..	..	..	4	2	
Convulsions	..	..	..	..	3	3	Nephritis	..	..	..	1	..	
Dentition	..	..	..	..	7	8	Pneumonia	..	..	..	9	13	
Diarrhoea	..	..	..	..	7	3	Prematurity	..	..	..	28	43	
Diphtheria	..	..	..	..	..	1	Pulmonary Congestion	..	..	..	..	2	
Dysentery	..	..	..	..	4	3	Purpura Haemorrhagica	..	..	..	1	..	
Encephalo-malacia	..	..	..	..	..	1	Scalding	..	..	..	2	..	
Extravasation of Urine	..	..	..	..	1	..	Septicaemia	..	..	..	1	1	
Fracture of Skull	..	..	..	..	1	..	Tetanus..	..	..	..	1	..	
Gastro-enteritis	..	..	..	..	39	59	Tetanus Neonatorum	..	..	..	2	2	
Haemorrhage from Umbilicus	..	..	..	..	1	1	Ulceration of Umbilicus	..	..	..	1	..	
Congenital Heart Disease	..	..	..	..	3	3	Verres	..	..	..	..	1	
Hepatitis	..	..	..	..	1	..	Whooping Cough	..	..	..	4	1	
Total							Total	..	..	..	282	287	

TABLE IX.—Showing Deaths of children from 1-5 years.

Diseases.							Males.	Females.	Total—Both Sexes.
Ascariasis	..	..	..	..	..	..	1	1	2
Bronchitis	..	..	..	..	..	..	2	2	4
Cancrum Oris	..	..	..	..	..	..	..	1	1
Convulsions	..	..	..	..	..	..	3	..	3
Dentition	..	..	..	..	..	..	2	1	3
Diarrhoea	..	..	..	..	..	..	1	1	2
Dysentery	..	..	..	..	..	..	1	5	6
Entero-colitis	..	..	..	..	..	..	4	5	9
Enteric Fever	..	..	..	..	..	..	5	1	6
Fracture of Skull	..	..	..	..	..	..	1	..	1
Gastro-enteritis	..	..	..	..	..	..	14	10	24
Intestinal Injuries	..	..	..	..	..	..	..	1	1
Intestinal Toxaemia	..	..	..	..	..	..	..	2	2
Malaria	..	..	..	..	..	..	6	7	13
Malnutrition	..	..	..	..	..	..	4	5	9
Marasmus	..	..	..	..	..	..	3	2	5
Mastoid Disease	..	..	..	..	..	..	..	1	1
Measles	..	..	..	..	..	..	1	..	1
Meningitis	..	..	..	..	..	..	1	..	1
Miliary Tuberculosis	..	..	..	..	..	..	..	2	2
Pleurisy	..	..	..	..	..	..	..	1	1
Pneumonia	..	..	..	..	..	..	4	9	13
Pulmonary Tuberculosis	..	..	..	..	..	..	2	1	3
Syphilis	..	..	..	..	..	..	3	4	7
Total							58	62	120

TABLE X.—Showing Infectious Diseases notified each month under the Public Health Ordinance.

Diseases.				January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Diphtheria	..	..	..	1	..	1	..	..	1	..	..	..	..	1	..	4
Enteric Fever	..	..	..	5	8	14	4	12	12	15	11	15	9	15	5	125
Small-pox (Alastrim type)	..	..	..	1	2	9	3	1	..	..	..	..	..	..	..	16
Pulmonary Tuberculosis	..	..	..	18	4	21	20	15	22	11	10	14	11	14	12	172
Tuberculosis (Other forms)	..	..	..	3	1	2	2	2	1	1	..	1	2	1	2	18
Pneumonia	..	..	..	8	8	17	6	7	1	5	9	5	8	6	6	86
Ophthalmia Neonatorum	..	..	..	..	5	1	4	5	1	2	1	1	3	3	2	28
Chicken-pox	..	..	..	1	4	2	2	3	1	1	1	..	1	..	..	16
Total	..	..	..	37	32	66	41	45	39	35	32	36	34	40	27	465

Table XI.—Showing Deaths from Notifiable Infectious Diseases.

Diseases.				January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Diphtheria.	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Enteric Fever	..	..	..	1	..	1	1	3	2	3	1	2	3	3	6	26
Small-pox (Alastrim type)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pulmonary Tuberculosis	..	..	..	11	9	21	16	17	26	15	10	16	14	15	13	183
Tuberculosis (Other forms)	..	..	..	4	1	..	5	1	1	1	1	..	3	..	..	17
Pneumonia	..	..	..	4	8	7	2	3	3	3	8	6	7	7	4	62
Ophthalmia Neonatorum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	20	18	29	24	24	32	22	20	24	28	25	23	289

TABLE XII.—Distribution of Cases, and Deaths from Notifiable Infectious Diseases.

				CITY.		ST. CLAIR.		EAST DRY RIVER.		BELMONT.		WOODBROOK.	
Population.				26,473		1,221		15,731		12,434		9,157	
Diseases.				Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.
Diphtheria	..	..	..	3	..	..	..	..	..	..	1	1	..
Membranous Croup	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	..	..	..	49	8	1	..	26	7	37	10	12	1
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Small-pox (Alastrim type)	..	..	..	8	..	..	..	7	..	1	..	..	..
Pulmonary Tuberculosis	..	..	..	77	78	..	1	41	50	35	36	19	18
Tuberculosis (Other forms)	..	..	..	8	8	..	..	4	3	3	4	3	2
Pneumonia	..	..	..	25	24	..	1	35	17	16	13	10	7
Ophthalmia Neonatorum	..	..	..	15	..	..	..	7	..	3	..	3	..
Chicken-pox	..	..	..	4	..	..	..	3	..	5	..	4	..
Total	..	..	..	189	118	1	2	123	77	100	64	52	28

TABLE XIII.—Showing Deaths in Hospital from Notifiable Infectious Diseases.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Enteric Fever	1	..	1	..	3	2	2	1	2	3	2	4	21
Pulmonary Tuberculosis	4	5	12	9	11	16	7	5	12	10	6	6	103
Tuberculosis (Other forms)	3	..	..	2	1	1	1	1	..	1	..	..	10
Pneumonia	1	7	5	1	1	1	1	5	3	4	3	1	33
Diphtheria .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	9	12	18	12	16	20	11	12	17	18	11	11	167

TABLE XIV.—Comparing Deaths in Hospital with Deaths at Home from Notifiable Infectious Diseases.

Diseases.	Died at Home.	Died in Hospital.	Total Deaths.	Percentage of cases isolated in Hospital before death.
Diphtheria	1	..	1	..
Enteric Fever	5	21	26	80·7
Pulmonary Tuberculosis	80	103	183	56·2
Tuberculosis (Other forms)	7	10	17	58·8
Pneumonia	29	33	62	53·2
Total	122	167	289	57·7

TABLE XV.—Showing Deaths from Non-notifiable Infectious Diseases.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Malaria	8	6	3	4	5	3	4	3	10	9	7	5	67
Whooping Cough .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery	3	6	1	1	1	2	1	8	3	..	1	4	31
Ankylostomiasis .. ..	..	2	2	1	1	..	1	1	1	1	3	2	15
Syphilis	8	6	..	4	8	7	7	5	6	4	4	6	65
Puerperal Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	19	20	6	10	15	12	13	17	20	14	15	17	178

TABLE XVI.—Showing Deaths in Hospital from Non-Notifiable Infectious Diseases.

Diseases.	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Malaria	2	2	..	..	..	1	1	..	4	2	1	1	14
Whooping Cough .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery	2	3	..	..	1	..	1	3	1	..	1	2	14
Ankylostomiasis .. ..	..	1	..	1	..	..	1	1	1	..	3	1	9
Syphilis	4	1	..	..	2	3	..	1	2	1	2	4	20
Puerperal Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	8	7	..	1	3	4	3	5	8	3	7	8	57

TABLE XVII.—Comparing Deaths in Hospital with Deaths at Home from Non-Notifiable Infectious Diseases.

Diseases.	Died at Home.	Died in Hospital.	Total Deaths.	Percentage of cases isolated in Hospital before death.
Malaria	53	14	67	20.8
Whooping Cough .. ..	..	..	..	..
Influenza .. ..	..	..	..	..
Dysentery	17	14	31	45.1
Ankylostomiasis	6	9	15	60.0
Syphilis	45	20	65	30.7
Puerperal Fever .. ..	..	..	..	..
Total	122	57	178	32.0

TABLE XVIII.—Deaths from Diarrhoea and Enteritis.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
8	5	6	6	8	10	14	12	10	9	8	11	107

APPENDIX B.—SANITARY CONDITIONS.

TABLE XIX.—Monthly Rainfall from three Stations in Port-of-Spain, 1926.

Station.	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for year.
St. Clair Expt. Station	.69	.39	.54	.23	2.12	5.26	5.25	10.85	11.20	14.78	9.71	7.56	68.58
Colonial Hospital ..	.45	.19	.17	.12	2.52	4.89	4.29	9.44	10.69	11.87	8.37	6.66	59.66
Constab. Head Quarters ..	.27	.23	Nil.	.12	2.37	4.91	8.19	9.30	8.21	23.15	8.96	7.85	73.56

TABLE XX.—Monthly Rainfall from three Stations in Port-of-Spain, 1925.

Station.	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for year.
St. Clair Expt. Station ..	1.77	1.06	2.67	.10	1.21	4.20	7.58	8.87	6.37	5.85	5.36	4.36	49.40
Colonial Hospital ..	1.30	.48	2.62	.08	.62	3.86	5.82	9.66	6.83	5.70	5.56	4.49	47.02
Constab. Head Quarters ..	1.93	Nil.	1.44	Nil.	.98	4.58	3.71	9.60	6.67	6.49	4.25	4.18	43.83

APPENDIX C.

SANITARY WORK—1926.

SANITARY INSPECTION.

TABLE A.—Inspection of Premises, &c., by Sanitary Inspectors.

MONTHS.	MONTHS.												Average per month.
	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Visits to dwelling houses and other premises ..	9,857	9,043	8,802	8,537	6,699	9,703	9,558	9,350	9,864	8,909	9,796	10,710	110,828
No. of Shops, Stores, Bakehouses, &c., inspected ..	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Provision and Meat Shops ..	114	282	99	58	13	151	139	137	159	139	106	120	126
Provision Stores ..	59	60	20	6	3	20	17	16	20	21	28	9	23
Restaurants and Cookshops ..	87	76	34	20	2	49	24	48	27	40	28	43	39
Common Lodging Houses ..	10	12	7	4	2	1	16	6	21	17	18	12	10
Dairies and Cowsheds ..	49	76	20	7	3	49	49	56	60	60	60	60	45
Stables ..	81	72	44	17	7	81	81	108	120	120	120	120	80
Schools ..	28	22	19	3	4	24	21	22	29	20	13	26	19
Dyeworks ..	5	6	1	..	..	1	4	5	5	1	1	4	2
Barber Shops ..	30	41	13	2	..	33	19	26	19	25	14	14	19
Aerated Water Factories ..	9	10	1	1	..	13	12	13	13	12	9	13	8
Other Factories ..	10	16	3	1	1	15	10	13	17	24	14	13	11
Cake and Ice Cream Shops ..	139	286	114	39	4	116	123	95	135	98	89	120	113
Fish Hawkers' Trays ..	255	198	110	10	8	270	263	201	200	144	100	100	150
Bakehouses ..	42	73	15	6	2	43	43	50	57	57	57	57	41
Bread Depots ..	15	16	6	8	..	14	14	16	16	16	16	16	12
Ice Cream Carts ..	20	15	..	..	..	20	26	26	26	26	26	26	16
Cake and other Food Hucksters' Trays ..	71	88	26	4	..	211	55	60	60	60	60	60	62
Plantain Carts ..	15	11	..	..	3	12	3	4	6	4	14	4	6
Boats ..	82	..	102	55	..	..	97	164	144	135	49	38	72
Spirit Shops ..	35	24	11	7	2	39	23	53	38	48	26	44	29
Fry Shops ..	43	40	16	7	1	26	16	20	22	6	9	16	18
Hotels ..	23	17	5	1	1	13	20	16	14	13	9	15	12
Markets ..	4	5	2	4	..	5	5	5	4	3	5	4	3
Laundries ..	10	20	1	3	..	8	9	13	13	8	8	9	8
Tanneries ..	7	8	1	1	..	7	10	9	10	10	10	10	6
Garages ..	24	17	10	3	1	11	12	15	16	14	6	10	11
Sweet Drink Carts ..	43	48	23	1	..	22	35	35	35	35	35	35	28
Public Urinals ..	5	5	1	1	..	2	4	5	3	1	3	2	2
Bread Carts ..	..	25	..	..	4	197	25	30	32	32	32	32	34
Oyster Vendors' Baskets ..	..	..	..	..	..	9	9	9	9	9	9	9	5
Coffee Vendors ..	..	..	..	..	..	..	1	2	1	2	1	..	1
Soap Factories ..	..	..	..	..	..	..	..	3	3	..	2	2	1
Breakfast Sheds ..	..	..	..	..	..	..	..	1	..	1	..	..	1

TABLE B.—Results of Notices and Verbal Directions.

Yards paved	6	Spirit Shops painted	2
Yard pavements repaired	78	Refreshment Parlours painted	44
Damp or swampy yards filled in	435	Coffee Shops painted	1
Yards cleaned	2,965	Hotels painted	3
Drains constructed	143	Aerated Water Factories painted	1
Drains repaired	387	Cake Shops painted	5
Drains cleaned	1,846	Restaurants painted	4
Washing Troughs cleaned	182	Provision Stores painted	4
Washing Platforms cleaned	296	Confectionery Factories painted	2
Washing Platforms repaired	1	Cookshops painted	4
Sinks cleaned	555	Cake Hucksters Trays painted	35
Gullies cleaned	191	Concrete floor of retail shops repaired	18
Lavatories cleaned	51	Concrete floor of cowsheds repaired	61
Sewer Basins cleaned	889	Concrete floor of stables repaired	67
New Privies built	165	Concrete floor of bakehouses repaired	31
Privies repaired	602	Concrete floor of refreshment parlours repaired	15
Privies made fly-proof	301	Concrete floor of spirit shops repaired	1
New Cesspits constructed	154	Concrete floor of kitchens repaired	1
Cesspits repaired	347	Concrete floor of tanneries repaired	18
Accumulations of manure removed	497	Concrete floor of restaurants repaired	1
Cesspits emptied	1,600	Concrete floor of provision stores repaired	1
Cesspits oiled (paid for)	4,301	Concrete floor of Barber shops repaired	1
Rat Holes stopped	264	Retail shops cobwebbed	190
Sanitary Dustbins provided	903	Cookshops cobwebbed	8
Dustbins repaired	473	Refreshment Parlours cobwebbed	126
Dustbins cleaned and disinfected	939	Barracks cobwebbed	113
Uncovered dustbins covered	751	Fry shops cobwebbed	3
Trees trimmed or cut down	37	Barber shops cobwebbed	9
Barracks repaired	3	Tanneries cobwebbed	20
Privy seats cleaned	13	Stables cobwebbed	70
Houses ventilated	49	Bakehouses cobwebbed	64
Roofs closeboarded	33	Cowsheds cobwebbed	14
Premises cleared of bush	619	Spirit shops cobwebbed	1
Bread Carts painted	35	Restaurants cobwebbed	2
Sweet Drink Carts painted	8	Provision Stores cobwebbed	14
Ice Cream Carts painted	15	Aerated Water Factories scrubbed	9
Barber Shops painted	10	Bakehouses scrubbed	121
Barracks painted	7	Retail shops scrubbed	114
Retail Shops painted	136	Cook shops scrubbed	6
Kitchens painted	1	Refreshment Parlours scrubbed	117

TABLE B.—Results of Notices and Verbal Directions — *Continued.*

Barber shops scrubbed	..	..	..	25	Kitchens repaired	..	..	..	9
Spirit shops scrubbed	..	..	..	61	Flush tanks repaired	..	..	..	1
Stables scrubbed	..	..	..	123	Washing Troughs repaired	..	..	..	1
Cowsheds scrubbed	..	..	..	29	Stables repaired	..	..	..	1
Hotels scrubbed	..	..	..	6	Cowsheds repaired	..	..	..	5
Restaurants scrubbed	..	..	..	10	Floors of bathrooms repaired	..	..	..	6
Tanneries scrubbed	..	..	..	24	Floors of Restaurants repaired	..	..	..	2
Soap factories scrubbed	..	..	..	6	Floors of cook shops repaired	..	..	..	2
Kitchens scrubbed	..	..	..	4	Walls of stables repaired	..	..	..	10
Urinals cleaned	..	..	..	78	Walls of cowsheds repaired	..	..	..	7
Tanneries cleaned	..	..	..	9	Flush Tanks installed	..	..	..	7
Concrete floor of stables cleaned	..	..	..	20	Sewer Basins installed	..	..	..	5
Concrete floor of cowsheds cleaned	..	..	..	35	Trees cut down	..	..	..	13
Concrete floor of bakehouses cleaned	..	..	..	18	Cake Hucksters' Trays made fly-proof	..	..	..	2
Concrete floor of tanneries cleaned	..	..	..	3	Bathrooms provided	..	..	..	1
Urinals constructed	..	..	..	1	Bathroom floor concreted	..	..	..	1
Kitchens constructed	..	..	..	1	Stable floors concreted	..	..	..	2
Sinks constructed	..	..	..	1	Foodstuffs screened	..	..	..	3
Sinks repaired	..	..	..	4	Mosquito breeding holes in trees filled	..	..	..	8
Sewer Basins repaired	..	..	..	2					
					Total	..	..	..	22,135

DISINFECTION.

TABLE C.—Premises disinfected for Infectious Diseases and Vermin.

Disease.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Tuberculosis	19	8	27	20	18	27	19	9	19	17	21	17	221
Enteric Fever	8	10	11	8	12	12	17	10	13	12	13	10	136
Pneumonia	7	7	14	6	7	..	5	7	5	7	6	6	77
Diphtheria	1	..	..	..	..	1	..	..	..	..	..	..	2
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken Pox	..	4	..	11	2	1	..	..	1	..	..	1	20
Measles	..	..	4	2	..	..	..	..	..	..	..	..	6
Small Pox (Alastrim type)	1	2	16	5	2	..	..	..	..	..	..	..	26
Ophthalmia Neonatorum	2	1	4	2	3	..	1	..	1	..	2	1	17
Total infectious diseases	37	32	77	54	44	41	42	26	39	36	42	35	505
Vermin (Common Lodging Houses)	51	48	42	2	5	41	56	61	65	42	54	52	519

TABLE D.—Railway Coaches Disinfected.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Yaws .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leprosy	2	1	1	..	2	3	3	1	1	7	3	1	25
Tuberculosis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE E.—Cesspits Sprayed with Crude and Distillate Oil (Free).

Disease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Enteric Fever ..	1,209	838	1,583	2,214	2,463	1,115	2,185	2,178	1,063	1,689	1,940	1,191	19,668

TABLE F.—Limewashing.

Premises and places limewashed.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Common Lodging Houses ..	1	..	..	..	..	1	1	1	2	1	1	1	9
Privies	106	89	71	4	..	124	110	90	104	91	109	229	1,127
Cowsheds	17	11	..	..	..	12	2	3	4	6	5	11	71
Bakehouses	11	12	..	..	..	2	6	14	9	1	6	20	81
Stables	23	16	..	..	..	10	2	1	8	6	13	28	107
Kitchens	4	12	..	..	..	..	..	..	3	2	4	3	28
Barracks	15	28	5	2	..	7	10	10	7	3	28	37	152
Barber shops	3	..	..	..	..	..	..	..	..	..	..	..	3
Retail shops	2	..	..	..	..	..	..	3	..	..	3	4	12
Fry shops	1	..	..	..	..	1	..	2	..	..	..	..	4
Cook shops	3	1	..	..	..	..	..	3	..	..	..	1	8
Parlours	1	1	..	..	..	7	..	1	..	1	7	6	24
Bathrooms .. ..	..	1	..	..	..	..	..	..	..	..	..	..	1
Restaurants .. ..	..	..	4	..	..	3	..	2	1	..	..	1	11
Cake shops .. ..	..	..	..	..	1	..	..	..	..	..	..	..	1
Aerated Water Factories ..	..	..	..	..	..	4	..	..	7	..	..	..	11
Bread Depots .. ..	..	..	..	..	..	..	..	1	1	..	..	..	2
Soap Factories .. ..	..	..	..	..	..	..	..	..	1	..	..	..	1
Tanneries .. ..	..	..	..	..	..	..	..	..	9	10	10	10	39
Totals	187	171	80	6	1	171	131	131	156	121	186	351	1,692

UN SOUND FOOD.

TABLE G.—Foodstuffs seized and destroyed under the Public Health (Amendment) Ordinance, 1919.

Articles.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Milk—Tins	31	..	..	..	..	..	31
Salmon—Tins	6	..	..	..	..	..	6
Corned Fish—Pounds	150	..	..	..	..	..	150

ANTI-PLAGUE MEASURES.

TABLE H.—Destruction of Rats and Mice.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Rats caught by Gangs
Rats bought
Total Rats destroyed
Mice caught and destroyed

TABLE J.—Examination of Rats by Government Bacteriologist.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Rats examined for Plague
Rats found infected with Plague
Immature rats not examined

ANTI-MOSQUITO WORK.

TABLE K.—Inspection of Eaves Gutters, &c.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Number of inspections and re-inspections of premises	2,105	1,943	1,667	1,377	1,357	2,256	2,590	2,583	2,748	3,009	2,878	2,964	27,477
Occasions found in good order	2,092	1,925	1,657	1,377	1,349	2,216	2,499	2,438	2,638	2,886	2,758	2,859	26,694
Defective Eaves Gutters	13	18	10	..	8	40	91	145	110	123	120	105	783
Defective Eaves Gutters containing water	5	3	3	..	3	16	31	41	54	36	40	37	269
Defective Eaves Gutters containing water with larvae	4	6	..	..	..	5	31	77	43	42	31	25	264
Occasions on which mosquito larvae were found in tubs, antiformicas, tin cans, &c.	36	40	20	1	..	48	79	166	141	54	103	66	754

TABLE L.—Reports to Water and Sewerage Department.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Leaks, defective taps, chokes, &c., reported

TABLE M.—Cases determined

OFFENCES.	January.			February.			March.			April.		
	Cases.	Fines.		Cases.	Fines.		Cases.	Fines.		Cases.	Fines.	
		£	s. d.		£	s. d.		£	s. d.		£	s. d.
Keeping stagnant water in antiformicas, &c.	1	1	0 0	1	1	0 0	6	6	15 0	..	..	..
Failing to provide proper dustbins	1	10	0 ..	..	..	..	5	2	2 6	..	..	..
Failing to comply with notices requiring abatement of a nuisance ..	5	4	0 0	1	10	0 ..	..	..	..	1	1	0 0
Failing to keep barber's shop clean	4	4	0 0	..	..	..	..	..	..	..	..	..
Failing to sterilise scissors and cleanse brushes, &c., in barber's shop ..	5	3	0 0	..	..	..	..	..	..	..	..	..
Failing to cause floor of bakehouse to be thoroughly swept .. ..	..	..	..	1	2	0 0	1	1	0 0	..	..	..
Failing to keep yard free of rubbish, tins, bottles, &c. ..	..	..	..	..	..	..	1	7	6 ..	..	..	..
Failing to maintain sewer basins clean .. ..	..	..	..	..	..	..	1	1	0 0	..	..	..
Exposing foodstuffs for sale without protection from contamination ..	..	..	..	..	..	..	4	3	0 0	..	..	..
Failing to cause all refuse and waste matter to be collected and removed from Hotel .. ..	..	..	..	..	..	..	1	1	0 0	..	..	..
Failing to cause full cesspits to be emptied, cleaned and disinfected ..	..	..	..	..	..	..	2	1	15 0	2	4	0 0
Wilfully exposing a person suffering from an Infectious disease in a public conveyance .. ..	..	..	..	..	..	..	..	..	..	1	2	0 0
Failing to notify Medical Officer of Health of a case of Infectious disease .. ..	..	..	..	..	..	..	..	..	..	1	2	0 0
Failing to maintain concrete drains clean .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Failing to cause privy seats to be maintained clean .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Exposing cakes for sale without protection from contamination .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Hawking milk without carrying badges .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Obstructing a driver of a sanitary gang in the execution of his duties ..	..	..	..	..	..	..	..	..	..	..	..	..
Failing to keep dustbins covered .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Delivering milk without carrying badges .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Carrying hogs' food through the streets—not being properly covered ..	..	..	..	..	..	..	..	..	..	..	..	..
Selling unsound condensed milk .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Total	16	12	10 0	3	3	10 0	21	17	0 0	5	9	0 0

by the City Magistrate and penalties imposed.

May.			June.			July.			August.			September.			October.			November.			December.			Totals.		
Cases.	Fines.		Cases.	Fines.		Cases.	Fines.		Cases.	Fines.		Cases.	Fines.		Cases.	Fines.		Cases.	Fines.		Cases.	Fines.		Total Cases.	Total Fines	
	£	s. d.		£	s. d.		£	s. d.		£	s. d.		£	s. d.		£	s. d.		£	s. d.		£	s. d.		£	s. d.
1	1	0 0	4	4	0 0	11	10	0 0	8	7	0 0	..	..	..	..	..	..	..	..	..	..	..	..	32	30	15 0
..	..	..	2	1	0 0	35	25	15 0	9	6	0 0	..	..	15	7	5 0	..	..	..	..	..	..	..	67	42	12 6
6	5	0 0	..	..	..	..	..	..	2	2	0 0	..	..	11	11	0 0	..	..	..	..	..	..	..	26	23	10 0
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	0 0
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	3	0 0
1	2	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	5	0 0
..	..	..	..	..	..	..	1	10	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	17	6
..	..	..	1	1	10 0	2	3	10 0	2	2	0 0	..	..	..	..	..	..	..	..	..	..	..	..	6	8	0 0
1	1	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4	0 0
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	0 0
..	..	..	11	11	0 0	11	15	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26	31	15 0
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	0 0
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	0 0
1	10	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	10	0
..	..	..	1	1	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	0 0
..	..	..	1	15	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	15	0
..	..	..	14	13	15 0	7	8	17 6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21	22	12 6
..	..	..	1	Dismissed	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
..	..	..	..	..	..	..	1	7	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	7	6
..	..	..	..	..	..	..	1	2	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	0 0
..	..	..	..	..	..	..	1	5	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	5	0
..	..	..	..	..	..	..	..	..	3	23	0 0	..	..	..	..	..	..	..	..	..	..	..	..	3	23	0 0
10	9	10 0	35	33	0 0	66	63	2 6	25	20	2 6	3	23	0 0	26	18	5 0	..	..	..	..	..	..	210	209	0 0

